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Nurses' attitudes toward patients with AIDS examined by hours of AIDS education

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Title: Nurses' Attitudes Toward Patients With AIDS Examined By Hours Of AIDS Education

APPROVED BY MEMBERS OF THE THESIS COMMITTEE:

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This study was designed to describe the attitudes of staff nurses toward patients who have Acquired Immunodeficiency Syndrome (AIDS), and to determine if the 1989

Washington State licensing requirement for seven hours of AIDS education was effective in changing the attitudes of these nurses toward AIDS patients. Health care providers' attitudes toward patients with AIDS have been documented as differing from their attitudes toward patients with other debilitating conditions (cancer, diabetes, heart disease) in that they place more blame for getting the disease on those with AIDS, they tend to have some degree of homophobia, and they are sometimes overly cautions in using protective procedures around these patients. The consequence of these attitudes can be seen in the nursing care received by some of these patients: insensitive comments and avoidance behavior by staff.

To examine the attitudes of staff nurses at a metropolitan medical center, and to determine if the number of hours of AIDS education they'd completed indeed affected their attitudes toward patients with AIDS, a survey tool was developed, incorporating suggestions from the review of the literature and providing a five-point Likert-type scale for responses. The items were randomly divided between positive and negative phrasing and scoring was reversed on the negative items in the data manipulation. Biographical information was presented by percentage. The nurses had a median age of 39.8 and had been in nursing an average of 15.5 years. Females represented 95.3 percent of the sample, and 91.2 of those responding were registered nurses.

Results were analyzed by total score and by scores on predetermined scales and statistically derived factors. The nurses were most accepting on the items relating to

moral judgment, and most conservative regarding issues of personal risk on the scale scores; on the derived factors, they were highest on items relating to hospital policy and lowest on those regarding duty vs risk.

In general, the nurses felt professionally competent to care for these challenging patients and denied that they were morally offended by them, but asserted that health care workers should be given a choice about caring for those who are HIV positive. Confidentiality and mass screenings were other controversial issues,with the sample expressing resistance to general screenings and a need to know the HIV status of patients assigned to them.

When analyzed with hours of AIDS education as the independent variable, those with 4-6 hours of training generally scored higher than those with 7-9 hours, suggesting that nurses who'd probably taken classes on their own, before the mandate, had more positive attitudes than those who simply took the required seven hour course. If education aims at changing behavior through changes in attitudes, legal mandates may not be the most effective approach.

NURSES' ATTITUDES TOWARD PATIENTS WITH AIDS

EXAMINED BY HOURS OF AIDS EDUCATION

by

TERESA GROVE

A thesis submitted in partial fulfillment of the
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TO THE OFFICE OF GRADUATE STUDIES:

The members of the Committee approve the thesis of Teresa Grove presented May 2, 1990.

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CHAPTER I

INTRODUCTION

INTRODUCTION TO THE PROBLEM

Much has been written lately about the quality of health care today, often related to issues of access to health care systems and to concerns about efficient and appropriate methods of reimbursement. Neither of these areas are specifically in the field of influence at the staff level; however, there are issues related to quality of care that can be addressed by health care workers at the bedside, one of which is the influence of staff's personal attitudes on their patient care delivery. The effect of these attitudes is particularly evident in the area of patients who are admitted to the acute care setting for the treatment of Acquired Immune Deficiency Syndrome (AIDS). Concern about care for these patients has reached the degree that special efforts are being made to address quality of care through educational interventions.

IMPETUS FOR THE STUDY

In 1988 the Washington State Senate passed Substitute Senate Bill 6221, Chapter 206, Laws of 1988 on Sexually Transmitted Diseases, known as the "Omnibus AIDS Act". Section 604 of the Act requires each disciplinary area to establish rules

requiring training on the prevention, transmission,and treatment of AIDS (Acquired Immuno-Deficiency Syndrome). The State Department of Licensing decided that registered nurses and licensed practical nurses must be able to document seven contact hours of education on the following AIDS topics: etiology and epidemiology; testing and counselling; infection control guidelines; clinical manifestations and treatment; legal and ethical issues, to include confidentiality; and psychosocial issues, to include special population considerations (Memorandum, State of Washington Department of Licensing, October 31,1988). This documentation was necessary for license renewal in 1989 (see Appendix A). Examples of available AIDS classes are listed in Appendix B.

Many investigators have found that significant numbers of nurses have insufficient knowledge about HIV infection and negative attitudes toward AIDS patients. In reviewing evaluations of AIDS education programs, there is evidence that the acquisition of factual information alone may not be effective in changing attitudes and practices of health care workers. Their attitudes and fears constitute a major barrier to the provision of optimal care for patients with AIDS. (Douglas, Kalman, & Kalman, 1985; Flaskenrud, Lewis, & Shin, 1989; Kelly, St.Lawrence, Hood, Smith, & Cook, 1988; VanServellen, Lewis, & Leake, 1988). According to Flaskenrud, et al. (1989), nurses in two separate large surveys use overly cautious isolation techniques, spend less time with AIDS patients than with other patients, actively avoid AIDS patients, and would refuse to care for an AIDS patient.

Staff at the Department of Licensing indicated that they planned to evaluate the fact-based portion of the Omnibus Act education requirement; however there was no provision for evaluation of the potential change in attitudes that would facilitate the "provision of optimal care" as a result of the required training. Thus, there is a need for a study to investigate the relationship between amount of inservice AIDS education and attitudes. Since attitudes and fears have been shown to provide a barrier to optimal care for patients with AIDS, an effective inservice program must address the attitudinal component of patient care.

STATEMENT OF THE PROBLEM

This study was designed to describe the attitudes toward persons with AIDS of the nurses at a mid-sized metropolitan medical center, and to determine if there was a difference in those attitudes among those who had attended differing amounts of AIDS education.

LIMITATIONS

One of the specific limitations inherent in the design of this study is that it addresses the attitudes of staff at only one institution; since nurses subject to the AIDS Omnibus Act practice are at institutions throughout the state, their responses to items on this survey might vary. Although the survey was distributed early in the year (May), and the education was not required until license renewal on the nurse's birthday,

many of the nurses had already completed the necessary seven hours, so the sizes of the comparison groups were unequal. Provisions were made for confidentiality, so that the respondents did not need to worry what someone else might think about their expressed attitudes; however, since this was a self-report survey, there could still be some reluctance to admit to what might be perceived as a "negative" attitude.

DEFINITION OF TERMS

The following terms are defined to enable non-medical readers to interpret the implications of several medical terms.

AIDS (Acquired Immuno Deficiency Syndrome):

The full-blown manifestation of the disease, manifested by evidence of such opportunistic infections as pneumocystis carenii pneumonia carposi's sarcoma, toxoplasmosis, and cryptococcol meningitis.

HIV (Human Immuno Deficiency Virus):

The sub-microscopic organism responsible for disabling lymphocyte T cells, thus inducing AIDS.

HIV-seropositive:

Someone who has been exposed to the HIV organism to a degree that he now has these organisms in his own blood, but may not develop symptoms for years.

OUTLINE OF CHAPTERS

Chapter I presented a rationale for the study, impetus for the study, statement of the problem, limitations, and definition of terms. Chapter II contains a review of related literature. Chapter III describes the methodology of the study, including design, subjects, instrumentation, procedures, and statistical methods. Chapter IV presents the results by Total Sample, A Priori Scale Scores, Derived Factor Scores, and analysis by hours of AIDS education. Chapter V summarizes the study, offers conclusions, and suggests areas for further research.

CHAPTER II

REVIEW OF RELATED LITERATURE

Research in the relatively new area concerning AIDS patients is being published daily. The literature relating to attitudes toward AIDS discusses the challenge that this new disease presents to the health care system, why AIDS is different from previous epidemics, and how health care workers' attitudes affect their patient care. It addresses the question of the effectiveness of educational programs to change these attitudes and suggests that programs be designed with this component specifically in mind. Finally, health care workers are urged to be willing to examine their own feelings and work to change them.

THE CHALLENGE OF AIDS

According to Kelly, et al. (1988), it is estimated that over one million persons have been exposed to the HIV organism responsible for AIDS, that AIDS cases will number in the hundreds of thousands within a few years, and that an even larger number of persons will be affected by AIDS-related conditions. Experts predict that soon AIDS will surpass heart disease and will be second only to accidents as the major cause of death (Armstrong, 1987). As of February, 1988, the Centers for Disease Control reported 52,000 identified cases of AIDS in the United States, while Washington state

anticipates 5,000 cases by 1991 (Committee on Ways & Means, 1988). All (1989) asserts,

> As the disease progresses, AIDS patients require a great deal of care, and health professionals must deal with their feelings in order to provide this care efficiently, competently, empathetically, and in a non-judgmental manner (p. 162).

J. Hutton (1987) agrees:

> AIDS presents one of the greatest challenges thus far encountered in terminal disease. The overall effectiveness and quality of care will depend greatly on a holistic, non-judgmental approach on the part of the caregivers.
>
> Caregivers - that is you and me - are left feeling, for the most part, overwhelmed. We have a whole host of emotional reactions, fears, and misconceptions that need to be confronted, and hopefully overcome. The problem seems to be twofold. It stems from a fear of the disease itself and, secondly, I think many of us are reacting to the life-style values associated with AIDS patients (the 76% of the AIDS patients who are homosexual or bisexual males).
>
> It's been said, or at least thought, "Maybe they are getting what they deserve". Some nurses have such an aversion to the AIDS sufferer, that they actually prefer to care for any other patient than "that gay at the end of the hall" (p. 48).

Abrams (1986) summarizes factors that may account for general withdrawal and negativity toward male homosexual persons with AIDS.

> First, historically, homosexual men have been stigmatized because of social bias against persons who do not fit the social norm. These prejudicial attitudes are reinforced by social forces that maintain that homosexual behavior is immoral (the church), that it is illegal (criminal laws prohibiting homosexual behavior still exist in 24 states), and that it represents emotional illness (although the American Psychiatric Association dropped the diagnosis in 1973);
>
> Second, AIDS is a venereal disease and persons with AIDS are still seen as sexually promiscuous and morally corrupt;

> AIDS is a previously unknown and complex disease; uninformed or misinformed persons are confused and frightened about the risk of contracting the disease and therefore avoid or reject persons with AIDS; and
>
> Persons with terminal illnesses experience stigmatization because of society's discomfort with death and dying (p. 13).

According to Armstrong, "Health care workers must work through their own feelings of non-acceptance of homosexuals (p. 4).

"Repulsed", "disgusted", "pity", and "sorrowful" were some of the feelings expressed by nurses toward their homosexual patients with AIDS (Young, 1988). Viele, Dodd, and Morrison (1984) describe the health care workers initial reactions to the proposal of establishing a special unit for the care of AIDS patients: It would be "a 'leper colony' or an 'internment camp', based on the hysterical reactions and blatant homophobia in the health care community" (p. 58). Douglas, Kalman, and Kalman (1985) have reported that in some medical centers AIDS has been nicknamed the "gay plague" or "WOG" (Wrath of God). In their study, 31% of nurses and interns reported feeling more negative toward homosexuals since the emergence of AIDS. Nine percent of their sample agreed that homosexuals who contract AIDS are getting what they deserve; while 9% is not a large portion of the total respondents, even this is an unacceptable percentage for health care providers. To a far greater degree than most diseases, AIDS elicits highly emotional, prejudicial and, at times, hysterical reactions (Kelly, et al. 1988).

On determinant of the negative reactions toward AIDS identified by Katz, Hass, Parisi, Astone and McEvaddy (1987) is the perception of responsibility for illness. They assert that less stigma is attached when patients are seen as not responsible for their disease, that being blamed for having a disease results in being less deserving of help or sympathy, and that perceived responsibility for a condition results in negative treatment. In their research comparing attitudes toward patients with cancer, AIDS, cardiac disease, and diabetes, people who have AIDS received highly negative worthiness ratings and were strongly rejected socially by every subject group (college students, nurses, medical students, and chiropractic students). They conclude,

> Our data suggest that the perception of AIDS patients as responsible for their illness underlies these extremely negative attitudes. The AIDS group received the most unfavorable ratings of responsibility of any diagnostic category (p. 627).

WHY AIDS IS DIFFERENT

But epidemics are not new to mankind, so why is this one different? According to Hatfield and Dunkel (1988), it has happened at a time in the history of medicine and science when health care workers believe that science and technology can solve any problem. There is also an expectation in industrialized nations of unlimited health care resources. And with today's lifestyles, the HIV organism has spread globally faster than any other infection. They go on to describe how the emotional reaction of the staff is based on several common psychological features of health care workers: their

high performance expectations, their feeling of professional omnipotence, their need to control, and their need to "save", all of which may be frustrated in their care for the person with AIDS. Some of the individual reactions of health care workers dealing with AIDS are identified as fear of the unknown, fear of contagion, fear of dying and death, fear of homosexuality, over identification, and anger. They point out how these reactions may lead to "burnout". Wachter (1986) laments, "Not in recent memory have so many relatively young, previously healthy people died so quickly, with caregivers seemingly powerless to influence the eventual outcome" (p. 179).

Stevens and Muskin (1987) offer a detailed psychological analysis of the sources of the fear of AIDS, observing that it cannot simply be explained as homophobia, "since the populace is just as fearful of catching AIDS from drug addicts or infected children as it is from homosexuals" (p. 540). They cite the reemergence of early childhood fears relating to issues of survival versus annihilation, fear of loss of control of powerful primitive impulses concerning pleasure, and fear of acting on oedipal wishes as sources of AIDS anxiety, claiming that "these fears are so profound and so terrifying that they prevent the emergene of normal compassion and empathy toward the victim of AIDS" (p. 542). They note Freud's assertion that empathy relies upon the ability to find some similarity between ourselves and the rest of the world, and that when a person without AIDS unconsciously identifies with fears of loss of control, "he or she becomes panicked, and the normal pathways to empathy become closed"
(p. 545).

HOW ATTITUDES AFFECT PATIENT CARE

In addition to contributing to staff's stress, these reactions can affect patient care. Kelly, et al. (1988) claim,

> To the extent that nurses have negative, preconceived attitudes and attributions concerning persons with AIDS, there biases may interfere with the development of constructive relationships with patients, the quality and tone of nurse/patient interactions, and the psychological comfort of both patients and the nurses who care for them (p. 79).

Stanford (1988) concurs in this assessment, saying, "fear and prejudice, leading to inappropriate and unsatisfactory care by nursing staff, is well documented" (p. 47). Royce and Birge (1987) also comment that the quality of medical care rendered to homosexuals and AIDS patients may be seriously impaired by negative attitudes such as homophobia and fear of AIDS. Official reports, disciplinary action, state investigations, and patient complaints from numerous hospitals provide accounts of nurses leaving their jobs or refusing to care for patients with AIDS out of fear or moral indignation. Cases of nurses giving only minimal attention to these patients and of isolating them inappropriately also have been reported (Nelson, Maxey & Keith, 1984). Lev (1986) notes that nurses and physicians have long recognized that the fears of caregivers are one cause of non-humanistic treatment of patients, particularly the dying.

In the conclusion to their research on attitudes toward AIDS. Wertz, Sorenson, Liebling, Kessler and Heeren (1987) assert,

> The care of persons with AIDS cannot be entrusted to people who believe that AIDS is transmitted by doorknobs, handshakes, or being in the same room. Provider beliefs are reminiscent of popular beliefs about syphilis earlier in the century. The 'AIDS coffee cup' has its parallel in the 'public drinking cup' once thought to transmit syphilis to innocent victims. As long as the beliefs of even a few providers remain at this level, it will be impossible to ensure a decent and humane level of care (p. 253).

The research literature also provides specific examples of health care provider's attitudes. A survey at Loyola University in the fall of 1987 showed that 45% of the undergraduate nurses, 40% of the RN/BSN students, and 21% of the MSN students said they would definitely or probably refuse to treat seropositive patients (Wiley, Heath & Acklin, 1988). The study by Wertz, et al. (1987) showed that inpatient care providers had the least accurate knowledge and felt most uncomfortable with persons with AIDS. Licensed Practical Nurses scored below the mean in knowledge and above the mean in anxiety in the survey conducted by Salzberg & Carpenter (1988). Flaskenrud (1989) maintains that the fear of AIDS seems to occur more often in health care workers who have less contact with AIDS patients and who have less knowledge about AIDS. Fisher, et al. (1988) found that male medical students in particular were unwilling to treat suspected or confirmed AIDS patients, male prostitutes, and male homosexuals. In a poll of physicians conducted in 1978, one third reported discomfort in treating homosexual patients (Golen, 1978). Physicians considered persons with AIDS more

responsible and deserving of illness, and less deserving of sympathy than similarly described leukemia patients (Kelly, St. Lawrence, Smith, Hood and Cook, 1987). Imperat, Feldman, Nayeri and DeHovitz, (1988) note that among medical students, those who perceive a high level of risk involved in basic medical procedures are also those who are more likely to think they should have the prerogative of declining care. They go on to note that the AMA's report on Ethical Issues Involved in the Growing AIDS Crisis firmly states that a physician may not ethically refuse to treat a patient whose condition is within the physician's current realm of competence.

DOES EDUCATION AFFECT ATTITUDES?

A common theme in many of the examples of health care workers' attitudes is that increased knowledge of AIDS is associated with more positive attitudes toward it (Royce and Birge, 1987; Turner, Gauthier, Ellison, and Greiner, 1988; Valenti, 1988). Salzberg and Carpenter (1988) specifically correlate high knowledge scores with low perception of risk, high knowledge scores with low-anxiety/reluctance about AIDS patients, and high knowledge scores with high levels of comfort. According to Haughey, Scherer, and Wu (1989), " because nurses' fears and attitudes can be influenced by knowledge about the disease, it is important to assess their knowledge base in order to appropriately target continuing education interventions" (p. 166).

The effectiveness of education programs in improving attitudes is documented by Wertz, et al. (1987), who note that after the programs, provider attitudes shifted on

six of the nine questions. The results of a study by O'Donnell and O'Donnell (1987) show that attendance at inservice education programs pertaining to AIDS was associated with reductions in stress, perceived risk, and discomfort around patients with AIDS. "The desired outcome of staff development programs is not just the acquisition of knowledge, but improved nursing care through the development of new skills or attitudes", according to Hartnett (1987, p. 66). As a result of her program, there is no further evidence of the "space suit syndrome": double gowns, masks and gloves, and she concludes that "staff have become compassionate and empathetic in their approach to these desperately ill people" (p. 66). Gerbert, et al. (1988) describe dentists' increased knowledge and increased willingness to treat after educational intervention, concluding, "important changes can be made by administering proved education methods that acknowledge dentists' fears and concerns while addressing knowledge and behavior deficits" (p. 853). Proven educational methods that apply adult learning principles to AIDS education are described by Schietinger and McCarthy (1988).

Flaskenrud, et al. (1989) note that nurses and other health care workers often question whether continuing education programs are effective in changing the knowledge and especially the attitudes of participants, and if the changes are retained; in their study both knowledge and attitudes improved, and remained improved in the two - three month follow-up.

EDUCATION MUST SPECIFICALLY ADDRESS ATTITUDES

Flaskenrud, et al. (1989) assert, however, that traditional methods of education may not be effective in changing attitudes, and other types of instruction (such as repetitive learning and demonstrations, attitude examination exercises, role modeling, or discussion groups) may be necessary. Wertz, et al. (1987) notes that sizable percentages of the students continued to believe after the programs that AIDS could be transmitted by casual contact, such as sharing coffee cups. "Factual information alone will not be sufficient in allaying concerns" (Turner, Gauthier, Ellison and Greiner, 1988, p. 277). They go on to say,

> Failure to combine the elements of knowledge and opportunity for attitudinal examination and modification of behavior may result in a health care professional who, though knowledgeable, is immobilized by personal feelings and is poorly prepared to delivery quality care (p. 277).

According to Stevens and Muskin (1987), experience has shown that simple information giving alone does little to allay panic in hospital personnel. Valenti (1988) also points out the disparity between understanding the nature of the disease and applying this knowledge in real situations. Van Servellen, Lewis and Leake (1988) claim that it is imperative that future studies address methods by which negative attitudes and beliefs about AIDS can be altered. An example of a program aimed at affective change is described by Stevens and Muskin (1987). According to Katz, et al. (1987) "Educational campaigns that aim at reduction of fear, realistic appraisals of patients' responsibility

and reduction of cognitive biases . . . should be directed at professional target groups" (p. 628).

WILLINGNESS TO CHANGE

Another factor in changing health care workers' attitudes toward AIDS is their willingness to change. Young (1988) notes, "Thoughtful persons often attempt to remove personal prejudices when they discover they have them" (p. 10) and claims, "Readiness to learn is the major component of effective education" (p. 12). "It will be important for health care providers who will soon be treating AIDS affected patients to examine their own attitudes toward these persons," according to Kelly, et al. (1987, p. 791). Van Servellen, et al. (1988) ask to what extent confrontation and consciousness raising should be included in AIDS programs. Young (1988) asserts,

> Whatever the results of further research, one can use this example from AIDS workshops as revealing the great need for nurses and other health care professionals to examine their feelings in the broad area of human sexuality and the specific area of homosexuality in order to discover how these feelings may affect the quality of care given to clients (p. 12).

Schietinger (1986) concludes that, "With preparation by nurse educators, nurses are able to create a climate of compassion and concern which counteracts the all too frequent reaction of fear by potential caretakers of a person with AIDS" (p. 4).

CHAPTER III

METHODOLOGY

Included in this chapter are a description of the study, the subjects, the instrument, the procedure for data collection, and the statistical methods used to analyze the data.

DESIGN

The opportunity for this investigation presented itself when the Washington State Legislature passed the AIDS Omnibus ACT (ESSB 6221) in September, 1988. This required health care providers to have seven hours of AIDS education (covering etiology and epidemiology, testing and counseling, legal and ethical issues, and psychosocial issues) before license renewal in 1989. Several single group pre-test and post-test studies have been conducted to determine the didactic effectiveness of courses designed to meet the seven hour requirement; however, actual nursing behaviors may be affected more by changes in attitudes toward patients with AIDS than by simply learning specific facts about disease transmission. This inquiry attempts to describe the attitudes of a group of nurses (who were subject to this license renewal requirement) toward AIDS patients, and to determine if there are any differences in attitudes among groups who had various amounts of the required training.

SUBJECTS

The sample consisted of staff nurses at a 435 bed metropolitan area medical center serving a population base of 200,000 in a three county area of southwest Washington. The medical center currently provides services in the areas of major surgery, neurology, dialysis, intensive care, obstetrics, gynecology, pediatrics, behavioral health, and oncology. The institution is one of three designated trauma centers for the area, and performs cardiac angiography and magnetic resonance imaging on-site. There are clinical affiliations with the University of Oregon Health Sciences Center and the Washington State University. Many of the staff are graduates of the Clark Community College associate degree nursing program, having performed their clinical rotations at this medical center. They care for about ten AIDS patients from the local area, each of whom may have several admissions per year.

INSTRUMENT

Since measurement of health care workers' attitudes toward patients with AIDS is a relatively new area of educational investigation, and narrowly focused, a standardized instrument was not available for this inquiry. A survey instrument was developed after a review of the literature suggested useful questions for investigating health care providers' attitudes; responses to these questions were provided on a five point Likert scale (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree).

A trial survey of twenty nurses was conducted to evaluate the instrument. As a result of this trial and the comments returned, several items were reworded. In the final format, approximately half were worded positively and half negatively, and the items were randomized with regard to question content area. Items were examined for natural content clusters and sorted into a priori scales relating to Homophobia, Social Distance, Professional Behavior, Personal Risk, Societal Risk and Moral Judgment. Data manipulation began with reverse scoring of the negatively scored items, then scale scores were derived. In those instances where an individual did not respond to all of the items on a scale, the mean of the items attempted on that scale was calculated and multiplied by the actual number of items assigned to the scale, thus providing comparable scale scores. However, for the total score, the mean of all items attempted was multiplied by 45 to yield a Total Scale score.

On the final page, demographic data was requested: age, years in nursing, level of education, gender, occupational status, and hours of AIDS education (the independent variable). Respondents were also asked whether they had actually cared for a patient with AIDS and whether someone close to them has AIDS or is HIV positive, since these factors may also affect attitudes toward patients with AIDS. A copy the instrument is found in Appendix C.

PROCEDURE

The purpose of the survey was explained to nursing managers and approved by the Institutional Review Board (a sub-function of the Institutional Ethics Committee). Approximately 600 questionnaires were distributed to nursing units with a cover letter explaining that participation was voluntary (see Appendix C). Manilla envelopes were provided on each nursing unit for collection and return of the surveys, thus providing convenience and relative anonymity; this is the usual route for surveys conducted by the Education Department. Nursing directors were asked to encourage their staff to participate, and follow-up letters were sent to the nursing staff of each unit two weeks after the surveys were distributed (see Appendix D). A total of 368 surveys were returned as requested, providing a response rate of 61.2%. Although the investigation was conducted in May and license renewals are due on the nurse's birthday, a significant number of those responding (86%) had already taken the required seven hours, leaving only 14% not meeting the minimum state mandated training. Seventeen surveys were deleted due to significant missing data, most often the middle page had no responses, but four respondents refrained from providing the demographic data; therefore 351 usable surveys were analyzed (58.5% of those distributed).

STATISTICAL METHODS

Data were computer scored and analyzed by the SYSTAT Version 4.0 software (Wilkinson, 1988). Item responses and scale scores for the total sample were analyzed. Means and standard deviations of the age and nursing experience of the respondents were calculated. For all other items on the survey, the percent of nurses in each response category was calculated. For the a priori scales, means, standard deviations, and internal consistency reliabilities were calculated, the latter using analysis of variance appropriate to Likert type scales. Principal component factor analysis was used to explore the factor structure, which yielded eleven factors, ten with two or more items. For these ten factors, means, standard deviations, and internal consistency reliabilities were also calculated.

The sample was sorted according to levels of education: 0-3 hours, 4-6 hours, 7-10 hours, and more than 10 hours. Multivariate analysis of variance (MANOVA) was performed, using hours of education as the independent variable and the a priori scales as dependent variables. With the rejection of the statistical hypothesis for the multivariate analysis, univariate analyses of variance (ANOVA) were performed on the scales, followed by Tukey's pairwise mean comparisons as appropriate. The same process was repeated for the ten factors with two or more items. Since the Total Scale is composed of the items found in the a priori scales, the Total Scale was not included in the MANOVA. However, an ANOVA was performed, using hours of AIDS

education as the independent variable and the Total Scale score as the dependent variable. All statistical tests were at the .05 level of significance.

In examining the biographical variables, three seemed logically related to the dependent variables: AGE, YEARS, and CARED; CLOSE had too few positive responses. If the distributions of these biographical variables are not proportionate across the level of education categories, it is possible that the differences observed may be the result of experiential differences not directly related to the amount of AIDS education. Therefore, these independent variables were used as covariates in a repeat of the previously discussed MANOVA on the a priori scales. Because of the strong relationship between years of experience in nursing and age, AGE was deleted from this MANOVA covariance. With the rejection of the statistical hypothesis for the MANOVA covariance, univariate ANOVA and covariance was performed on each scale, with nonsignificant covariates being excluded from the univariate analysis. The previously discussed MANOVA covariance analysis was repeated, this time using the factors (vis scales) as dependent variables. ANOVA covariance was also investigated, using HOURS as the independent variable, and YEARS and CARED as covariates. All statistical tests were at the .05 level of significance.

Following each rejection of a statistical hypothesis for analysis of variance, all pairwise adjusted mean comparisons were made, using univariate pairwise ANOVA. All statistical tests were at the .05 level of significance.

CHAPTER IV

RESULTS

The results of this study are related to three major areas: responses for the total sample, scale scores examined by hours of education, before and after the removal of the influence of selected biographical data, and factor scores examined by hours of education, before and after the removal of the influence of biographical data.

TOTAL SAMPLE

One purpose of this study was to describe the attitudes toward AIDS patients of the nursing staff at a mid-sized metropolitan medical center. Analysis of the total sample is presented in this section, organized around biographical data and responses to individual items, a priori scales, and derived factors.

Biographical Variables

A description of the respondents with regard to age and years in nursing is presented in Table I. The mean age of all respondents was 39.8, with a range of 22 to 65 years and a standard deviation of 8.8 years. They had been in the nursing profession an average of 15.5 years; the shortest career was one year, and the longest was 47 years, with an S.D. of 9.5.

TABLE I

AGE AND YEARS IN NURSING

Variable	Mean	SD	Range
Age	39.8	8.8	22-65
Years	15.5	9.5	1-47

Level of education, gender, whether they had cared for someone with AIDS, whether someone close to them was HIV positive or had AIDS, their professional status, and the number of hours of AIDS training they had received are summarized in Table II. The availability of associate degree nurses from the local community college program is reflected in the large (45.6) percentage of nurses in this response category; those with a three year degree (diploma) comprised 25.6 percent of the sample, and those with a four year degree totaled 23.3 percent, while Master's degree prepared staff were only 2.6 of those responding. Historically, nursing is a female dominated profession, as evidenced by the 95.3 percent of the sample professing this gender. The increasing incidence of those with AIDS in the general population may explain the 75.4 percent who have actually cared for a patient with AIDS; confidentiality issues, however, may be a factor for those who responded with a question mark. The increasing incidence of AIDS is not yet manifested in those with close relationships to

TABLE II

EDUCATION, GENDER, CARED, CLOSE, STATUS AND HOURS OF AIDS TRAINING, BY PERCENT

Variable	Categories	Percent	Variable	Categories	Percent
Education			Gender		
	AA	45.6		Male	4.7
	Diploma	25.6		Female	95.3
	BS/BA	23.3			
	MS/MA	2.6			
	Other	1.4			
Cared for Someone with AIDS			Close to someone HIV +		
	Yes	75.4		Yes	12.0
	No	24.6		No	88.0
	?	3.7			
Status			Hours of Training		
	RN	91.4		10+	41.6
	LPN	6.6		7-9	44.4
	Other	2.0		4-6	4.3
				1-3	7.4
				0	2.3

Note: "?" was a written free response.

these nurses, since they report only twelve percent with someone close to them who has AIDS or is HIV positive.

Although the current trend is moving from a high concentration of RN staff (related to the nursing shortage), the ratio of 94.2 percent RN respondents to 6.6 percent LPN's is representative of present staffing ratios; the two percent who indicated "Other" were primarily nurse anesthetists and technical personnel. In spite of the fact that the required seven hours of training need not have been completed until the nurse's license renewal on her birthday, the survey distributed in May indicated that most staff did not wait to fulfill the requirement, with 41.6 percent having ten or more hours of AIDS training, 44.4 percent with seven to nine hours, 4.3 percent with four to six hours, 7.4 percent with one to three hours, and 2.3 percent who had not started their formal AIDS training.

Item Responses

For convenience of presentation, the individual items are grouped according to the original a priori scales, collecting those pertaining to similar concepts. They are described in Tables III-IX, with original responses not reflecting the selected reverse scoring used to compute the scale scores. Available response categories on a five - point Likert scale were: strongly disagree(SD), disagree(D), undecided(U), agree(A), or strongly agree(SA).

The items on Moral Judgment (MJ) scale reflect a range from acceptance to censure (Table III). The respondents generally did not believe that a person with AIDS deserves whatever happens to him: 85% expressed disagreement (SD,D) with the position that those with AIDS deserve it (Item 1); 93% disagreed that a person with AIDS should lose his job (Item 40). However, in the case of IV drug users (Item 15, 57%) or homosexuals (Item 32, 69%), although still in disagreement with the statement, they were more accepting of the position that these victims deserved this affliction (23% and 18%, respectively). The respondents were, in general, sympathetic toward AIDS patients: 94% agreed that they have a lot of pain and suffering (Item 18), and 89% agreed that AIDS patients deserve sympathy and understanding (Item 27). They tended to reject suicide as an acceptable solution (Item 35), with 66% disagreeing and 21% undecided. Although most were not morally offended by people with AIDS (Item 23, 77% disagreed with the statement), they expressed more divergence in regard to responsibility, with 41% considering persons with AIDS responsible for getting the disease and 48% disagreeing with Item 8. Whether or not the respondents believed AIDS victims deserved the condition or were responsible for getting it, 94% said that AIDS patients should receive the same level of care as other patients (Item 11).

The items on the Social Distance (SD) scale attempt to describe the social comfort level in various potential interactions (Table IV). Respondents were most comfortable with striking up a conversation with a person with AIDS (Item 2, 93%) and having someone with AIDS live on the same street (Item 5, 92%); they remained

TABLE III

DISTRIBUTION FOR MORAL JUDGMENT ITEMS, BY PERCENT

Item		SD	D	U	A	SA
1.	A person with AIDS usually deserves what has happened to him.	49.0	36.4	7.4	5.7	1.4
8.	Most people with AIDS are responsible for getting this disease.	19.7	28.6	11.1	34.6	6.0
11.	A person with AIDS should receive the same level of medical care as other patients.	1.4	1.4	3.1	44.0	50.0
15.	An IV drug user who contracts AIDS deserves what he got.	19.8	37.0	20.3	14.9	8.0
18.	A person with AIDS has a lot of pain and suffering.	0.9	2.0	3.2	50.3	43.7
23.	I am morally offended by people with AIDS.	29.7	47.7	11.4	8.6	2.6
27.	A person with AIDS deserves sympathy and understanding.	2.6	2.9	5.8	51.3	37.5
32.	Homosexuals who contract AIDS get what they deserve.	32.4	36.1	14.0	12.3	5.2
35.	Suicide is an acceptable solution for a person with AIDS.	33.4	32.6	20.9	9.4	3.7
40.	It is fitting that a person with AIDS loses his job.	42.5	50.1	6.3	1.1	0.0
45.	A person with AIDS deserves to die.	63.7	28.9	5.1	2.0	0.3

TABLE IV

DISTRIBUTION FOR SOCIAL DISTANCE ITEMS
BY PERCENT

Item	SD	D	U	A	SA
2. If I met a person with AIDS, I would be willing to strike up a conversation with him/her.	1.1	1.4	4.0	53.0	40.4
5. I am opposed to people with AIDS living on the same street as I.	54.3	38.0	3.4	1.7	2.6
12. Children with AIDS should be isolated from other children at school.	45.1	39.1	13.1	2.3	0.3
19. I would allow my children to visit a person with AIDS in his/her home.	4.0	7.1	21.1	55.0	12.6
28. If I found out one of my friends has AIDS, I would consider limiting the relationship.	40.4	46.7	6.6	5.2	1.1
36. I would be willing to work in the same office as a person with AIDS.	1.4	4.0	10.0	58.7	25.9
41. I would avoid a party where a person with AIDS was preparing the food.	13.9	35.8	26.3	17.9	6.1
44. I would attend a party where I knew a person with AIDS would be present.	0.6	2.9	8.0	67.1	21.5

relatively comfortable with children not being isolated (Item 12, 84%), not limiting a friendship (Item 28, 87%), working in the same office as someone with AIDS (Item 36, 85%), and attending a party where a person with AIDS would be present (Item 44, 89%). More caution was expressed, however, in regard to allowing their children to visit a person with AIDS in his/her home, with only 68% agreeing with Item 19, and 24% would avoid a party where a person with AIDS was preparing the food (with 26% uncertain on Item 41).

Perception of Professional Behavior is presented in Table V. Those responding agreed that they routinely use Body Substance Isolation (BSI) precautions and remind others to do so (Item 16, 95%, and Item 9, 81%). They express confidence in their ability to care for a person with AIDS, with 83% agreeing with Item 33, and 73% disagreeing that they have insufficient knowledge to protect themselves from getting AIDS (Item 37). Responses were more divided on some of the details of AIDS patient care, however, with 48% feeling comfortable and 36% feeling uncomfortable taking a sexual history (Item 20); just 50% felt they could give adequate counselling to high-risk groups (Item 24). They also had mixed feelings regarding a nurse's duty toward AIDS patients, with 29% agreeing and 46% disagreeing that health care workers should be allowed to refuse to care for HIV sero-positive patients (Item 4), 35% choosing to avoid caring for persons with AIDS (Item 29), and only 48% asserting that a nurse's duty requires her to care for infected individuals despite personal risk (Item 42).

TABLE V

DISTRIBUTION FOR PROFESSIONAL BEHAVIOR ITEMS, BY PERCENT

Item	SD	D	U	A	SA
4. Health care workers should be allowed to refuse to treat HIV sero-positive patients.	20.9	25.4	24.6	18.6	10.6
9. I remind other staff to use BSI precautions for all patients.	2.1	5.3	9.8	61.3	19.5
16. I routinely use Body Substance Isolation (BSI) precautions.	0.6	1.4	2.6	55.2	40.2
20. I feel uncomfortable taking a sexual history in my patient interview.	10.9	37.1	16.3	31.7	4.0
24. I could give adequate AIDS counselling to homosexuals, IV drug users, and patients likely to get blood transfusions.	4.9	20.3	25.1	41.4	8.3
29. If I had a choice, I would avoid caring for persons with AIDS.	16.2	34.2	14.5	25.1	10.0
33. I feel professionally competent to care for a person with AIDS.	2.0	5.1	10.0	67.5	15.4
37. I feel I have insufficient knowledge to protect myself from getting AIDS.	26.0	46.9	4.9	16.0	6.3
42. A nurse's duty requires her to care for infected patients despite personal risk.	11.5	19.5	20.7	39.9	8.3

On the Personal Risk scale, nurses were asked to evaluate their perceptions of the probability of contracting AIDS themselves in the work setting (Table VI). They correctly acknowledged that the usual precautions used against hepatitis (good handwashing and using gloves when handling body secretions) are effective against the HIV organism, and rejected the "space suit" approach of full protective covering (Items 3 and 25, both 80%). The perception of personal and family risk was more mixed, with 69% agreeing that personal risk was low, and 61% perceiving that risk to their family was also low (Items 34 and 43). Testing of health care workers and patients, and availability of test results were more controversial: 56% thought that health care workers should not be screened routinely (with 24% undecided, Item 10), 45% believed patients should not be required to have an HIV antibody test on admission (23% undecided, Item 17), and 78% agreed that antibody tests should be available to personnel involved in direct patient care (12% undecided, Item 21).

The scales describing perceptions of Societal Risk is described in Table VII. Respondents perceived that risk to society does not need to be controlled by having persons with AIDS wear identifying armbands or be quarantined (Item 30, 88%, and Item 13, 86%); they were more cautious in having patients with AIDS moving around the hospital freely, with 60% agreeing with Item 6 that they should have comparable movement. There was ambivalence about whether a person with AIDS is dangerous to other people, where 60% believed this is rarely so, but 14% were undecided and 26% disagreed that they were rarely dangerous (Item 38).

TABLE VI

DISTRIBUTION FOR PERSONAL RISK,
BY PERCENT

Item	SD	D	U	A	SA
3. The usual precautions used against hepatitis are effective against the HIV organism.	5.5	6.7	8.2	53.4	26.2
10. All health care workers should be screened for the AIDS antibody on a regular basis.	23.4	32.6	24.3	14.3	5.4
17. Patients should not be required to have the HIV antibody test on admission.	12.8	19.4	22.8	30.2	14.8
21. Antibody test results should be available to all personnel involved in direct patient care.	3.2	7.5	11.5	43.1	34.8
25. I would only care for a HIV infected patient while wearing full protective covering: mask, goggles, cap, shoe covers, and gloves.	22.6	57.3	8.3	8.0	3.7
34. I am very unlikely to get AIDS.	3.1	11.1	16.3	50.0	19.4
43. My caring for a person with AIDS could endanger my family's health.	17.3	43.8	13.5	21.0	4.3

TABLE VII

DISTRIBUTION FOR SOCIETAL RISK,
BY PERCENT

Item	SD	D	U	A	SA
6. Patients with AIDS should be allowed to move around the hospital as freely as other patients.	7.1	17.1	16.0	43.3	16.5
13. A person with AIDS should be quarantined so he does not expose others.	41.6	44.1	7.7	4.9	1.7
30. The government should force persons with AIDS to wear identifying badges of armbands.	55.3	33.1	8.0	2.0	1.7
38. A person with AIDS is rarely dangerous to other people.	6.4	19.2	14.2	50.0	10.2

Items relating to Homophobia are found in Table VIII. The nurses saw themselves as relatively comfortable caring for homosexuals (74%, Item 7), and two-thirds of them would be willing to talk to the gay lover of a person with AIDS (Item 39). The perception of the average nurse's comfort in discussing risk factors related to sex with homosexuals was diverse: 46% disagreed, 18% were undecided, and 36% agreed (Item 14). Homosexuality is still not considered an acceptable alternative lifestyle by 50% of those responding (Item 31), but only 25% would be concerned that if they got AIDS other people would think they were gay (Item 22).

TABLE VIII

DISTRIBUTION FOR HOMOPHOBIA,
BY PERCENT

Item	SD	D	U	A	SA
7. Compared to my colleagues, I am less comfortable in caring for homosexuals.	23.8	50.1	19.5	4.3	2.3
14. I think the average nurse is comfortable discussing risk factors related to sex with homosexuals.	8.9	37.5	17.5	30.7	5.4
22. If I got AIDS, other people would think I am homosexual (or lesbian).	12.1	40.8	22.4	21.8	2.9
31. Homosexuality should be considered an acceptable alternative lifestyle.	30.3	19.7	25.1	18.3	6.6
39. I would feel comfortable interacting (talking) with the gay lover of a person with AIDS.	5.2	11.7	16.1	51.0	16.0

The items relating to IV drug use is on Table IX. Only 15% were worried that people would think they were IV drug users if they contracted AIDS (Item 26).

TABLE IX

DISTRIBUTION FOR IV DRUG USE,
BY PERCENT

Item	SD	D	U	A	SA
26. If I got AIDS, people would think I am an IV drug user.	15.9	45.4	23.4	13.9	1.5

Scale Scores

In the preceding discussion of item responses, the presentation of the items was organized according to the a priori scales to which they appeared to belong. These a priori scales were used to generate scale scores by reversing the negatively phrased items and averaging for any missing values, as described in Chapter III. Table X shows the means and standard deviations of the scale scores, the mean item scores of the scales (for inter-scale comparisons), and the internal consistency reliability (where appropriate). A total scale score was also determined, for which the mean item score was 3.7, where 1 was most negative, and 5 was most accepting or broad minded. The mean item score of the responses for the areas of Moral Judgment (4.0), Social Distance (4.0), and Societal Risk (4.4) were above the total; while the scores for perception of Personal Risk (3.1) and Homophobia (3.3) were below the total score. The mean/item on the Moral Judgment scale indicates that most nurses fall in the "agree" area, and are

TABLE X

SCALE SCORES: MEANS, SD, MEAN/ITEM, AND RELIABILITIES

Scale	Mean	SD	Mean/Item	Rel.
Moral Judgment	44.3	5.9	4.0	.738
Social Distance	32.2	4.5	4.0	.724
Professional Behavior	31.9	4.5	3.6	.532
Personal Risk	21.6	3.7	3.1	.418
Societal Risk	17.4	3.2	4.4	.510
Homophobia	16.2	2.8	3.3	.296
IV Drug	3.6	1.0	3.6	
Total	167.4	18.4	3.7	.870

relatively non-judgmental with regard to persons with AIDS. The Social Distance scale also scored in the "agree" area, suggesting that the respondents are comfortable interacting with persons with AIDS in most situations. The Societal Risk scale scored highest, between "agree" and "strongly agree", implying that concern for irresponsible behavior by persons with AIDS is minimal. Scores falling in the "undecided" area for Professional Behavior (3.6), Personal Risk (3.1), Homophobia (3.3), and IV drug use (3.6) may be indicative of true uncertainty in these areas, or may reflect a bi-polar

group. The scale reliabilities, ranging from .30 for Homophobia to .74 for Moral Judgement, could be improved with fine-tuning of the instrument or with the development of more area-specific items. Since the IV Drug scale had only one item, an internal consistency reliability coefficient could not be calculated. The Total scale reliability was .870.

Derived Factors

Principle components factor analysis yielded ten factors with two or more items; these factors fell into clusters that would be indications of Social Isolation (Factor A), Hospital Policy (Factor B), Empathy (Factor C), Perception of Self by Others (Factor D), Professional Competence (Factor E), Patient Responsibility (Factor F), Controlling Risk (Factor G), Relief of Suffering (Factor H), Duty vs. Risk (Factor I), and a final pair of Miscellaneous items (Factor J). The individual item primary factor loadings (retained at >.365) are described in Table XI. The criteria for selecting items to be included in a factor were: loading greater than .365 and primary loading on the factor (i.e., no significant secondary loading on another factor). Consequently, three items were not used; two had no primary loading and one was a single item factor.

TABLE XI

PRINCIPLE COMPONENTS FACTOR ANALYSIS WITH VARIMAX ROTATION

Factor	Factor Loading			
A.	.479(2)*	.462(6)	.366(11) .431(12)	.579(19)
	.580(25)	.700(36)	.485(38) .439(39)	.490(40)
	.598(41)	.395(43)	.731(44)	
B.	.734(9)	.665(16)		
C.	.404(7)	.405(13)	.707(27) .652(28)	.662(30)
	.687(45)			
D.	.395(5)	.872(22)	.864(26)	
E.	.566(20)	.594(24)	.555(33)	
F.	.654(8)	.593(15)	.428(23) .520(32)	
G.	.686(10)	.478(17)	.465(34)	
H.	.585(18)	.718(35)		
I.	.651(3)	.633(21)	.560(29) .615(42)	
J.	.678(1)	.544(4)		

* ( ) indicates item number

For each scale a mean factor score, standard deviation, mean item score (for inter-factor comparisons), and factor internal consistency reliabilities are presented in Table XII.

TABLE XII

FACTOR SCORES: MEANS, SD, MEAN/ITEM, AND RELIABILITIES

Factor	Mean	SD	Mean/Item	Rel.
A. Social Isolation	42.3	6.2	3.8	.758
B. Hospital Policy	12.7	1.5	4.2	.492
C. Empathy	25.4	3.4	4.2	.645
D. Perception/Self	7.0	1.8	3.4	.408
E. Professional Competence	10.4	2.1	3.5	.314
F. Patient Responsibility	14.4	3.6	3.6	.591
G. Controlling Risk	10.4	2.4	3.5	.291
H. Relief of Suffering	8.2	1.2	4.1	.057
I. Duty vs Risk	11.7	3.3	2.9	.480
J. Misc.	8.1	1.5	4.1	.175

Nurses scored highest on the factors relating to Hospital Policy and Empathy, with mean item scores of 4.2 on each, where 1 represents a more negative attitude and 5 could be viewed as most broad-minded, thus the score of 4.2 would fall in the "agree" to "strongly agree" area when all items are phrased positively. Respondents also rated high on the Relief of Suffering factor (4.1), which would be consistent with their

empathy rating. They agreed on the Misc. items that a person with AIDS usually does not deserve what happens to him and that the usual precautions used against hepatitis are effective against the HIV organism (4.1). In the areas of Perception of Self by Others (3.4), Professional Competency (3.5), Patient Responsibility (3.6), and Controlling Risk (3.5), the respondents fell in the "undecided" to "agree" range, corresponding to scale scores in similar areas, and suggesting either ambivalence or balancing polarities among those who responded. The lowest factor mean/item score fell in the Duty vs. Risk area, with a 2.9, just below "undecided".

SCALE SCORES BY HOURS OF EDUCATION

The independent variable for this analysis was levels of AIDS education, with dependent variables of the a priori scales and Total scale. The statistical analysis was performed twice: the first was a direct analysis, without concern for the potential influence of other biographical variables, and the second used covariance to remove the influence of selected biographical variables.

Analysis of Variance

Scale scores by hours of education (means and standard deviations) are described in Table XIII. With but one exception, the highest scale mean was for the 4-6 hour group; on the Societal Risk scale it was second highest. The lowest scale mean was for the 0-3 hour group; it was tied with the 7-9 hour group on the Homophobia scale.

On six of the eight scales, the mean of the 10 hour-and-over group was second in ranking; it was third on the Societal Risk and IV Drug use scales. On these two scales, the 7-9 hour group had the highest and second highest mean, respectively.

TABLE XIII

SCALE SCORES BY HOURS OF EDUCATION
MEANS AND STANDARD DEVIATIONS

	0-3		4-6		7-9		10+	
Scale	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Moral Judgment	43.6	6.8	47.0	5.8	43.7	5.9	44.8	5.7
Social Distance	30.9	5.2	34.5	3.9	32.1	4.2	32.5	4.6
Professional Behavior	30.3	5.1	34.8	3.8	31.2	4.4	32.8	4.3
Personal Risk	20.1	3.3	23.0	4.0	21.2	3.5	22.3	3.8
Societal Risk	16.7	3.3	18.9	2.9	25.0	3.0	17.6	3.4
Homophobia	16.0	3.3	18.9	2.7	16.0	2.7	16.3	2.8
IV Drug Use	3.4	1.2	3.9	0.7	3.7	0.9	3.5	1.0
Total	160.9	19.9	181.3	15.3	165.1	17.7	169.9	18.1

A multivariate analysis of variance was performed on the seven scales, followed by univariate analyses and Tukey's pairwise tests of means as needed. The statistical hypothesis for the multivariate case was rejected at the .05 level of significance (Wilks' lambda = 0.867; **F** = 2.340; **df** = 21, 965; **p** = .001). With the rejection of the multivariate statistical hypothesis, univariate analyses were performed on these scales and on the Total scale, followed by Tukey's test as appropriate.

Analysis of variance results are presented in Table XIV. Five of the univariate analyses of variance were significant. The statistical hypothesis that the population means for the various levels of AIDS education are equal was not rejected for the following scales: Moral Judgment (**F** = 2.099, **p** = .100), Social Distance (**F** = 2.473, **p** = .061), and Societal Risk (**F** = 2.048, **p** = .107). The statistical hypothesis was rejected at the .05 level for the following scales: Professional Behavior (**F** = 7.193, **p** = .000), Personal Risk (**F** = 5.370, **p** = .001), Homophobia (**F** = 5.139, **p** = .002), IV Drug Use (**F** = 2.791, **p** = .041), and Total (**F** = 6.137, **p** = .000).

TABLE XIV

ANALYSIS OF VARIANCE FOR SCALES

Scale	Source	Sum-of-Squares	df	Mean Square	F	p
Moral Judgement	Between	220.614	3	73.538	2.099	.100
	Within	12158.335	347	35.038		
Social Distance	Between	146.278	3	48.759	2.473	.061
	Within	68481.499	347	19.716		
Professional Behavior	Between	422.112	3	140.704	7.193	.000
	Within	6788.172	347	19.562		
Personal Risk	Between	231.606	3	71.202	5.370	.001
	Within	4600.702	347	13.259		
Societal Risk	Between	62.891	3	20.964	2.048	.107
	Within	3551.284	347	10.234		
Homophobia	Between	120.295	3	40.098	5.139	.002
	Within	2707.557	347	7.803		
IV Drug Use	Between	7.616	3	2.539	2.791	.041
	Within	311.138	342	0.910		
Total	Between	5979.801	3	1993.267	6.137	.000
	Within	112698.856	347	324.781		

Tukey's pairwise mean comparisons were performed on the scales which had significant univariate tests. The exact probabilities are shown in Table XV (the means are presented in Table XIII). On the Professional Behavior scale, the mean of

TABLE XV

TUKEY'S PAIRWISE PROBABILITIES FOR SIGNIFICANCE SCALES

Scales	Hours	0 - 3	4 - 6	7 - 9	10+
Professional Behavior	0-3	1.000			
	4-6	0.000	1.000		
	7-9	0.750	0.000	1.000	
	10+	0.258	0.354	0.504	1.000
Personal Risks	0-3	1.000			
	4-6	0.000	1.000		
	7-9	0.425	0.000	1.000	
	10+	0.198	0.905	0.635	1.000
Homophobia	0-3	1.000			
	4-6	0.000	1.000		
	7-9	1.000	0.000	1.000	
	10+	0.983	0.003	0.982	1.000
IV Drug User	0-3	1.000			
	4-6	0.013	1.000		
	7-9	0.218	0.257	1.000	
	10+	0.984	0.316	0.788	1.000
Total	0-3	1.000			
	4-6	0.000	1.000		
	7-9	0.613	0.000	1.000	
	10+	0.381	0.089	0.768	1.000

those in the 4-6 hour group was significantly greater than the means of the 0-3 hour group ($p = .000$) and the 7-9 hour group ($p = .000$). On the Personal Risk scale, the mean of the 4-6 hour group was significantly greater than the means of the 0-3 hour

group ($p = .000$) and the 7-9 hour group ($p = .000$). For Homophobia, the mean of the 4-6 hour group was significantly greater than the means of three other groups: 0-3 hours ($p = .000$), 7-9 hours ($p = .000$), and 10+ hours ($p = .003$). The mean of the 4-6 hour group was also significantly greater on the IV Drug Use scale than the 0-3 hour group ($p = .013$). On the Total scale, the mean of the 4-6 hour group was significantly greater than the mean for the 0-3 hour group ($p = .000$) and the 7-9 hour group ($p = .000$).

Covariance Analysis

As previously discussed, Years, Age, and Cared were examined for possible covariates. Although each tended to be significant as a covariate alone, the unique contribution of Age when all were used together was negligible, thus Years and Cared were retained as covariates. A multivariate analysis of variance and covariance was performed, with Hours of AIDS education as the independent variable, Cared (for an AIDS patient) and Years (in nursing) as covariates, and the a priori scales as dependent variables. The statistical hypothesis for the multivariate case was rejected at the .05 level of significance (Wilks' lambda = 0.889: $F = 1.798$; $df = 21, 902$; $p = .016$). With the rejection of the multivariate statistical hypothesis, univariate analyses of variance and covariance were performed on these scales, including the Total scale; non-significant covariates were excluded from these univariate analyses.

As can be seen in Table XVI, neither of the covariates were significant for four scales: Social Distance (Years: $F = 0.057$, $p = .812$; Cared: $F = 0.286$, $p = .593$); Societal Risk (Years: $F = 2.884$, $p = .090$; Cared: $F = 0.049$, $p = .825$); Homophobia (Years: $F = 0.002$, $p = 0.966$; Cared: $F = 1.155$, $p = .283$); and IV Drug Use (Years: $F = 0.418$, $p = .519$; Cared: $F = 0.116$, $p = .734$); and total scale (Years: $F = 3.185$, $p = .075$; Cared: $F = 0.541$, $p = .463$); therefore the covariates were deleted. Since the covariates were not significant and since degrees of freedom would be lost by both the covariance model and the failure of all respondents to answer the covariate questions, the original univariate analyses were used in this study; the covariance analysis was deleted for these variables.

As indicated in Table XVI, on the Moral Judgment scale Cared was not significant as a covariate ($F = 1.334$, $p = .249$); it was deleted and the analysis repeated, using Years as the covariate. On the Professional Behavior scale Years was not significant as a covariate ($F = 0.924$, $p = .337$); it was deleted and the analysis repeated, using Cared as the covariate. On the Personal Risk scale, Cared was not significant as a covariate ($F = 1.623$, $p = .204$); it was deleted and the analysis repeated using Years as the covariate. The results of the repeated covariance on these three scales are shown in Table XVII. The statistical hypothesis that the adjusted population means are equal was not rejected for Moral Judgment ($F = 1.587$, $p = .192$) The statistical hypothesis was rejected for Personal Risk ($F = 3.944$, $p = .009$) and for Professional Behavior ($F = 4.679$, $p = .003$). Therefore, on these two scales, significant differences were

TABLE XVI

UNIVARIATE ANALYSIS OF VARIANCE AND COVARIANCE ON THE SCALES

Scale	Source	Sum-of-Squares	df	Mean Square	F	p
Moral Judgment	Hours	185.120	3	61.707	1.800	.147
	Years	154.393	1	154.393	4.504	.035
	Cared	45.717	1	45.717	1.334	.249
	Error	11107.405	324	34.282		
Social Distance	Hours	179.120	3	59.707	3.073	.028
	Years	1.100	1	1.100	0.057	.812
	Cared	5.548	1	5.548	0.286	.593
	Error	6294.168	324	19.426		
Professional Behavior	Hours	236.308	3	78.769	4.136	.007
	Years	17.588	1	17.588	0.924	.337
	Cared	258.871	1	258.871	13.594	.000
	Error	6169.881	324	19.043		
Personal Risk	Hours	149.556	3	49.852	3.848	.010
	Years	86.480	1	86.480	6.676	.010
	Cared	21.028	1	21.028	1.623	.204
	Error	4197.308	324	12.955		
Societal Risk	Hours	66.564	3	22.188	2.180	.090
	Years	29.353	1	29.353	2.884	.090
	Cared	0.497	1	0.497	0.049	.825
	Error	3297.715	324	10.178		
Homophobia	Hours	113.557	3	37.852	4.911	.002
	Years	0.014	1	0.014	0.002	.966
	Cared	8.905	1	8.905	1.155	.283
	Error	2497.486	324	7.708		

TABLE XVI

UNIVARIATE ANALYSIS OF VARIANCE AND COVARIANCE ON THE SCALES
(continued)

Scale	Source	Sum-of-Squares	df	Mean Square	F	p
IV Drug Use	Hours	6.374	3	2.125	2.288	.079
	Years	0.388	1	0.388	0.418	.519
	Cared	0.108	1	0.108	0.116	.734
	Error	297.187	320	0.929		
Total	Hours	5120.588	3	1706.863	5.371	.001
	Years	1012.116	1	1012.116	3.185	.075
	Cared	171.840	1	171.840	0.541	.463
	Error	102957.758	324	317.771		

found among the hours of AIDS education groups: on the Personal Risk scale, after removing the variance accounted for by the Years of nursing variable and on the Professional Behavior scale, after removing the variance accounted for by the Cared variable. Using an analysis of variance approach with mean square within as the error term, all pairwise mean comparisons were made on the Professional Behavior scale. The adjusted mean of the 4-6 hour group (34.1) was significantly greater than the adjusted mean (30.4) of the 0-3 hour group ($F = 6.817$; $p = .009$) and the adjusted mean (31.3) of the 7-9 hours group ($F = 5.287$; $p = .022$). The adjusted mean for the 10 + group (32.7) was significantly greater than the adjusted mean of the 0-3 hour

group ($F = 6.765$; $p = .010$). Also, the adjusted mean of the 10+ hour group was significantly greater than the adjusted mean of the 7-9 hour group ($F = 7.044$; $p = .008$). Using an analysis of variance approach with mean square within as the error term, all pairwise mean comparisons were made on Personal Risk Scale. The adjusted mean (23.0) of the 4-6 hour group was significantly greater than the adjusted mean (20.3) of the 0-3 hour group ($F = 5.787$; $p = .017$). The adjusted mean (22.3) of the 10+ hour group was significantly greater than the adjusted mean (21.3) of the 7-9 hour group ($F = 4.646$; $p = .032$) and the adjusted mean of the 0-3 hour group ($F = 8.307$; $p = .004$).

Comparison of Analyses

Table XVIII summarizes the results of the various modes of analysis. As can be seen, significant covariates were found on only three scales: Moral Judgment, Professional Behavior, and Personal Risk. For each of these scales, the decision concerning the main effect was the same for the ANOVA and the covariance: fail to reject the statistical hypothesis for Moral Judgment and reject the statistical hypothesis for Professional Behavior and Personal Risk. On both of these variables, the patterns for the means and adjusted means were the same; overall the magnitude of the differences decreased. On the Professional Behavior scale, the largest change was for the 4-6 hour group, with a mean loss of 0.7 points. On the Personal Risk scale the

TABLE XVII

UNIVARIATE ANALYSIS OF VARIANCE AND COVARIANCE, USING SIGNIFICANT COVARIATES, ON MORAL JUDGMENT, PROFESSIONAL BEHAVIOR, AND PERSONAL RISK

Scale	Source	Sum-of-Squares	df	Mean Square	F	p
Moral Judgment	Hours	166.012	3	55.337	1.587	.192
	Years	216.091	1	216.091	6.196	.013
	Error	11717.703	336	34.874		
Personal Risk	Hours	154.682	3	51.561	3.944	.009
	Years	95.594	1	95.594	7.313	.007
	Error	4392.249	336	13.072		
Professional Behavior	Hours	268.834	3	89.611	4.679	.003
	Cared	231.093	1	213.093	11.123	.001
	Error	6379.503	333	19.158		

largest change was a gain of 0.2 points for the 0-3 hour group; two groups changed less than 0.1 points.

FACTOR SCORES BY LEVELS OF EDUCATION

Using hours of AIDS education as the independent variable, the derived factors were used as dependent variables for this analysis. The statistical analysis was performed twice: first, using analysis of variance, without concern for the potential influence of the biographical variables; and second using covariance to remove the influence of selected biographical variables.

TABLE XVIII

COMPARISON OF ANALYSES FOR SCALES

Scale	ANOVA (Stat. Hypothesis)	Covariance: Significant Covariates	Covariance: CV Main Effect (Stat. Hypothesis)
Moral Judgment	Fail to reject	Years	Fail to reject
Social Distance	Fail to reject	none	used ANOVA
Professional Behavior	Reject	Cared	Reject
Personal Risk	Reject	Years	Reject
Societal Risk	Fail to reject	none	used ANOVA
Homophobia	Reject	none	used ANOVA
IV Drug Use	Reject	none	used ANOVA
Total	Reject	none	used ANOVA

Analysis of Variance

Factor scores by hours of AIDS education (means and standard deviations) are described in Table XIX. With only one exception, the highest factor mean was for the 4-6 hour group; on Factor G (Controlling Risk) it was second highest by a slim margin. On eight of the ten factors, the mean of the 10- and-over group was second in ranking;

TABLE XIX

FACTOR SCORES BY HOURS OF AIDS EDUCATION:
MEANS AND STANDARD DEVIATIONS

	0-3		4-6		7-9		10+	
Factor	Mean	SD	Mean	SD	Mean	SD	Mean	SD
A	40.3	6.7	47.0	5.2	41.8	5.9	42.9	6.2
B	12.6	1.5	13.3	1.8	12.4	1.6	12.9	1.4
C	25.0	3.9	26.4	4.2	25.3	3.2	25.5	3.5
D	6.6	2.0	7.9	1.5	7.1	1.8	6.8	1.8
E	10.1	2.6	11.3	1.4	10.0	2.1	10.7	1.9
F	13.9	4.2	15.7	3.3	14.2	3.6	14.6	3.5
G	9.6	2.6	10.7	2.5	10.2	2.3	10.8	3.2
H	7.8	1.2	8.5	1.4	8.1	1.2	8.3	1.2
I	10.5	3.2	13.2	3.1	11.4	3.2	12.0	3.4
J	7.8	1.5	8.5	1.1	8.0	1.4	8.3	1.5

it was third on Factor D (Perception of Self by Others) and first on Factor G. On Factor D the 7-9 hour group ranked second.

A multivariate analysis of variance was performed on the ten factors, followed by univariate analyses and Tukey's pairwise tests of means as needed. The statistical hypothesis for the multivariate case was rejected at the .05 level of significance (Wilks' lambda = 0.864; **F** = 1.871; **df** = 27, 981; **p** = .005). With the rejection of the multivariate statistical hypothesis, univariate analyses were performed on these factors, followed by Tukey's test as appropriate.

Analysis of variance results are presented in Table XX. Five of the univariate analyses of variance were significant. The statistical hypothesis that the population means for the various levels of AIDS education are equal was not rejected for the following factors: Empathy (C, **F** = 0.647, **p** = .585), Perception of Self by Others (D, **F** = 2.570, **p** = .054), Patient Responsibility (F, **F** = 1.195, **p** = .311), Relief of Suffering (H, **F** = 1.852, **p** = .137), and Misc. (J, **F** = 1.923, **p** = .126). The statistical hypothesis was rejected at the .05 level for the following factors: Social Isolation (A, **F** = 4.988, **p** = .002), Hospital Policy (B, **F** = 3.555, **p** = .015), Professional Competence (E, **F** = 3.642, **p** = .013), Controlling Risk (G, **F** = 3.234, **p** = .022), and Duty vs. Risk (I, **F** = 3.340, **p** = .019).

Tukey's pairwise mean comparisons were performed on the factors which had significant univariate tests. The exact probabilities are shown in Table XXI (the means were reported in Table XIX). On Factor A (Social Isolation), the mean of those in the

TABLE XX

ANALYSIS OF VARIANCE FOR THE DERIVED FACTORS

Factor	Source	Sum-of-Squares	df	Mean Square	F	p
A	Between	547.469	3	182.490	4.988	.002
	Within	12696.190	347	36.588		
B	Between	24.780	3	8.260	3.555	.015
	Within	806.220	347	2.323		
C	Between	22.754	3	7.585	0.647	.585
	Within	4066.106	347	11.718		
D	Between	25.119	3	8.373	2.570	.054
	Within	1120.594	344	3.258		
E	Between	45.219	3	15.073	3.642	.013
	Within	1436.103	347	4.139		
F	Between	46.611	3	15.537	1.195	.311
	Within	4510.250	347	12.998		
G	Between	53.112	3	17.704	3.234	.022
	Within	1899.811	347	5.475		
H	Between	8.266	3	2.755	1.852	.137
	Within	516.150	347	1.487		
I	Between	106.528	3	35.509	3.340	.019
	Within	3688.760	347	10.630		
J	Between	12.038	3	4.013	1.923	.126
	Within	724.122	347	2.087		

TABLE XXI

TUKEY'S PAIRWISE PROBABILITIES FOR SIGNIFICANCE FACTORS

Scales	Hours	0 - 3	4 - 6	7 - 9	10+
A. Social Isolation	0-3	1.000			
	4-6	0.000	1.000		
	7-9	0.576	0.000	1.000	
	10+	0.526	0.058	0.914	1.000
B. Hospital Policy	0-3	1.000			
	4-6	0.067	1.000		
	7-9	0.823	0.016	1.000	
	10+	0.832	0.872	0.620	1.000
E. Professional Competence	0-3	1.000			
	4-6	0.009	1.000		
	7-9	0.990	0.005	1.000	
	10+	0.753	0.713	0.675	1.000
G. Controlling Risk	0-3	1.000			
	4-6	0.057	1.000		
	7-9	0.862	0.823	1.000	
	10+	0.039	0.994	0.766	1.000
I. Duty vs Risk	0-3	1.000			
	4-6	0.000	1.000		
	7-9	0.481	0.000	1.000	
	10+	0.457	0.534	0.906	1.000

4-6 hour group was significantly greater than the means for the 0-3 hour group (p = .000) and the 7-9 hour group (p = .000). On Factor B (Hospital Policy), the mean for the 4-6 hour group was again significantly greater than the mean for the 7-9 hour group (p = .016). On Factor E (Professional Competence), the mean of those in the 4-6 hour group was significantly greater than the means in the 0-3 hour group (p = .009) and the 7-9 hour group (p = .005). On Factor G (Controlling Risk), the mean of the 10-hour-and-greater group was significantly greater than the mean of the 0-3 hour group (p = .039). On Factor I (Duty vs. Risk), the mean for the 4-6 hour group was significantly greater than the means for the 0-3 hour group (p = .000) and the 7-9 hour group (p = .000).

Covariance Analysis

Again, the biographical data for Years, Age, and Cared were examined for possible covariates, and, since the contribution of Age was minimal, Years and Cared were retained as covariates. A multivariate analysis of variance and covariance was performed with Hours of AIDS education as the independent variable, Cared and Years as covariates, and the factor scores as dependent variables. The statistical hypothesis for the multivariate case was rejected at the .05 level of significance (Wilks' lambda = 0.875; F = 1.587; df = 27, 917; p = .030). With the rejection of the multivariate statistical hypothesis, univariate analyses of variance and covariance were performed on the factor.

Table XXII shows that neither of the covariates were significant for six of the factors: Factor A (Social Isolation, Years: $F = 0.666$, $p = .415$; Cared: $F = 0.268$, $p = .605$); Factor B (Hospital Policy, Years: $F = 0.529$, $p = .468$; Cared: $F = 0.066$, $p = .798$); Factor C (Empathy, Years: $F = 3.111$, $p = .079$; Cared: $F = 0.804$, $p = .371$); Factor D (Perception of Self by Others, Years: $F = 3.239$, $p = .073$; Cared: $F = 0.000$, $p = .990$); Factor F (Patient Responsibility, Years: $F = 2.852$, $p = .092$; Cared: $F = 0.300$, $p = .584$), Factor H (Relief of Suffering, Years: $F = 3.212$, $p = .074$; Cared: $F = 1.391$, $p = .239$); and Factor J (Misc. Years: $F = 2.176$; $p = .141$; Cared: $F = 3.428$; $p = .065$). Therefore, the covariates were deleted. Since the covariates were not significant and since degrees of freedom would be lost by both the Covariance model and the failure of all respondents to answer the covariate questions (biographical data), the original univariate analyses were used in this study; the covariance analysis was deleted for these variables.

As demonstrated in Table XXII, on Factor E (Professional Competence), Years was not significant as a covariate ($F = 3.505$, $p = .062$); it was deleted and the analysis repeated using Cared as the covariate. On Factor G (Controlling Risk), Cared was not significant as a covariate ($F = 0.002$, p .967); it was deleted and the analysis repeated using Years. For Factor I (Duty vs Risk) both Years and Cared were significant (Years: $F = 10.769$, $p = .001$; Cared: $F = 5.274$, $p = .022$).

TABLE XXII

ANALYSIS OF VARIANCE AND COVARIANCE ON THE DERIVED FACTORS

Factor	Source	Sum-of-Squares	df	Mean Square	F	p
A	Hours	569.047	3	189.682	5.345	.001
	Years	23.619	1	23.619	0.666	.415
	Cared	9.528	1	9.528	0.268	.605
	Error	11498.379	324	35.489		
B	Hours	20.111	3	6.704	2.869	.037
	Years	1.236	1	1.236	0.529	.468
	Cared	0.154	1	0.154	0.066	.798
	Error	757.194	324	2.337		
C	Hours	20.307	3	6.769	0.584	.626
	Years	36.076	1	36.076	3.111	.079
	Cared	9.320	1	9.320	0.804	.371
	Error	3757.659	324	11.598		
D	Hours	21.642	3	7.214	2.184	.090
	Years	10.699	1	10.699	3.239	.073
	Cared	0.001	1	0.001	0.000	.990
	Error	1063.679	322	3.3003		
E	Hours	37.022	3	12.341	3.084	.028
	Years	14.026	1	14.026	3.505	.062
	Cared	32.306	1	32.306	8.074	.005
	Error	1296.467	324	4.001		
F	Hours	42.038	3	14.013	1.075	.360
	Years	37.180	1	37.180	2.852	.092
	Cared	3.913	1	3.913	0.300	.584
	Error	4223.888	324	13.037		

TABLE XXII

ANALYSIS OF VARIANCE AND COVARIANCE ON THE DERIVED FACTORS
(continued)

Factor	Source	Sum-of-Squares	df	Mean Square	F	p
G	Hours	37.472	3	12.491	2.264	.081
	Years	27.150	1	27.150	4.921	.027
	Cared	0.010	1	0.010	0.002	.967
	Error	1787.658	324	5.517		
H	Hours	8.132	3	2.711	1.939	.123
	Years	4.490	1	4.490	3.212	.074
	Cared	1.944	1	1.944	1.391	.239
	Error	453.002	324	1.398		
I	Hours	58.179	3	19.393	1.963	.119
	Years	106.367	1	106.367	10.769	.001
	Cared	52.093	1	52.093	5.274	.022
	Error	3200.060	324	9.877		
J	Hours	6.190	3	2.063	1.026	.381
	Years	4.375	1	4.375	2.176	.141
	Cared	6.893	1	6.893	3.428	.065
	Error	651.470	324	2.011		

The results of the repeated covariance on these four factors is shown in Table XXIII. The statistical hypothesis that the adjusted population means are equal were not rejected for Factor E ($F = 2.392$, $p = .068$); Factor G ($F = 2.294$, $p = .078$); and Factor I ($F = 1.963$, $p = .119$). When the adjusted means were determined for the covariates, the levels of significance varied slightly, but the relative order of the means was maintained.

TABLE XXIII

UNIVARIATE ANALYSIS OF VARIANCE AND COVARIANCE, USING SIGNIFICANT COVARIATES, ON FACTORS E, G, AND I

Factor	Source	Sum-of-Squares	df	Mean Square	F	p
E	Hours	28.564	3	9.521	2.392	.068
	Cared	34.579	1	34.579	8.688	.003
	Error	1325.314	333	3.980		
G	Hours	37.625	3	12.542	2.294	.078
	Years	25.423	1	25.423	4.650	.032
	Error	1837.073	336	5.467		
I	Hours	58.179	3	19.393	1.963	.119
	Years	106.367	1	106.367	10.769	.001
	Cared	52.093	1	52.093	5.274	.022
	Error	3200.060	324	9.877		

Comparison of Analyses

As can be seen, significant covariates were found on only three factors (E, G, and I). Although in the ANOVA's these three factors were significant, the statistical hypothesis for the main effect was not rejected for any of these factors after applying covariance. On Factor E (Professional Competence), the pattern among the means was unchanged by applying covariance; however, the magnitude of the differences was sufficiently reduced to result in being unable to reject the statistical hypothesis. Part of the difference among the groups was the result of group differences in experience caring for AIDS patients. On Factor G (Controlling Risk), the patterns among the means was unchanged by applying covariance; however, the magnitude of the differences was sufficiently reduced to result in being unable to reject the statistical hypothesis. Part of the difference among the groups was the result of group differences in nursing experience. On Factor I (Duty vs Risk), the pattern among the means was generally unchanged by applying covariance; however, the magnitude of the differences was sufficiently reduced to result in being unable to reject the statistical hypothesis. Part of the differences among the groups was a result of differences in nursing experience and experience with AIDS patients.

TABLE XXIV

COMPARISON OF ANALYSES FOR DERIVED FACTORS

Factor	ANOVA (Stat. Hypothesis)	Covariance	
		Significant Covariates	CV Main Effect (Stat. Hypothesis)
A	Reject	none	used ANOVA
B	Reject	none	used ANOVA
C	Fail to reject	none	used ANOVA
D	Fail to reject	none	used ANOVA
E	Reject	Cared	Fail to reject
F	Fail to reject	none	used ANOVA
G	Reject	Years	Fail to reject
H	Fail to reject	none	used ANOVA
I	Reject	Years, Cared	Fail to reject
J	Fail to reject	none	used ANOVA

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The major focus of this study was to describe the attitudes of nurses toward people with AIDS and to determine if the number of hours of AIDS education they'd received made any difference in these attitudes. The sample consisted of staff nurses at a southwest Washington medical center. The nurses had a mean age of 39.8 years and had been in nursing an average of 15.5 years. The ratio of females to males, 95.3% to 4.7%, is reflective of the predominance of females in the nursing profession. The range of educational background included associate degrees (45.6%), diploma graduates (25.6%), bachelor's degrees (23.3%), and master's degrees (2.6%). Registered nurses represented 91.4% of the sample and licensed practical nurses made up 6.6%.

The nursing staff at the medical center were asked to respond on a five-point Likert scale (strongly agree - strongly disagree) to 45 items describing attitudes toward persons with AIDS, and to provide several items of biographical data on a survey that was distributed to all nursing units. Ultimately, 351 usable surveys were returned. Biographical data was summarized by percent, and included queries regarding whether the nurse had actually cared for someone with AIDS and if someone close to the nurse

was HIV positive. Since half the items were phrased negatively, these item scores were reversed for use in scale and factor scores. The items were analyzed both on a priori scales, determined before the instrument was administered, and on derived factors, determined by factor analysis on the data results. Scale scores were determined in the areas of Moral Judgment (mean/item = 4.0), Social Distance (mean/item = 4.0), Professional Behavior (mean/item = 3.6), Personal Risk (mean/item = 3.1), Societal Risk (mean/item = 4.4), Homophobia (mean/item = 3.3), IV Drug Use (mean/item = 3.6), and Total (mean/item = 3.7), where the mean/item on a five point scale reflects "5" as most broad minded and "1" as most judgmental. Factor scores were calculated for the areas of Social Isolation (mean/item = 3.8), Hospital Policy (mean/item = 4.2), Empathy (mean/item = 4.2), Perception of Self by Others (mean/item = 3.4), Professional Competence (mean/item = 3.5), Patient Responsibility (mean/item = 3.6), Controlling Risk (mean/item = 3.5), Relief of Suffering (mean/item = 4.1), Duty vs Risk (mean/item = 2.9), and a pair of Miscellaneous items (mean/item = 4.1). Reliabilities on the scales and factors ranged from .758 (Social Isolation) to .175 (Misc.) with .870 on the Total. The nurses were most accepting in the area of perceived risk to society, and most cautions in the areas of Duty vs Risk and Personal Risk.

The data were next analyzed, using levels of AIDS education as the independent variable. A multivariate analysis of variance was performed on the seven scales, followed by univariate analyses and Tukey's pairwise tests of means as needed on all scales, including Total. With only one exception, the highest scale mean was for the

4-6 hour group - on the Societal Risk scale it was second highest. The lowest scale means were for the 0-3 hour group; it was tied with the 7-9 hour group on the Homophobia scale. On six of the eight scales, the mean of the 10 hour-and-over group was second in ranking; it was third on the Societal Risk and IV Drug Use scales. On there two scales, the 7-9 hour group had the highest and second highest means, respectively.

The multivariate analysis of variance was significant, as were five of the univariate analyses of variance. The statistical hypotheses that the population means for the different levels of AIDS education are equal was rejected at the .05 level for the Professional Behavior, Personal Risk, Homophobia, IV Drug Use, and Total scales. Tukey's pairwise comparisons were performed on the scales which had significant univariate tests. The mean for the 4-6 hour group was significantly greater than the means for the 0-3 and 7-9 hour group on the Professional Behavior, the Personal Risk, and the Total scales; it was significantly greater than the 0-3 hour group on the IV Drug Use scale; and it was significantly greater than all other groups on the Homophobia scale.

Selected biographical variables were next examined as possible covariates. A multivariate analysis of variance and covariance was performed, with hours of AIDS education as the independent variable, Cared (for an AIDS patient) and Years (in nursing) as covariates, and the a priori scale scores as dependent variables. Neither of the covariates were significant for the Social Distance, Societal Risk, Homophobia, IV

Drug Use scales, or Total scale. On the scales where there was only one insignificant covariate, it was deleted and the analysis repeated with the significant covariate. The statistical hypothesis that the adjusted population means are equal was rejected for the Personal Risk and Professional Behavior scales; significant differences were found among the hours of AIDS education groups on the Personal Risk scale after the variance accounted for by the years in nursing variable was removed and on the Professional Behavior scale after the variance accounted for by the Cared variable was removed.

With hours of AIDS education as the independent variable, the derived factors were also examined, using a multivariate analysis of variance on the factors, followed by univariate analyses and Tukey's pairwise tests of means as needed. With only one exception, the highest factor mean was for the 4-6 hour group; on Factor G (Controlling Risk), it was second highest. On eight of the ten factors the mean of the 10 hour-and-over group was second in ranking; it was third on Factor D (Perception of Self by Others), and first on Factor G. On Factor D the 7-9 hour group ranked second.

The multivariate analysis of variance and five of the univariate analysis of variance were significant. The statistical hypothesis that the population means for the different levels of AIDS education are equal was rejected for the factors reflecting Social Isolation, Hospital Policy, Professional Competence, Controlling Risk, and Duty vs Risk. Tukey's pairwise mean comparisons were performed on the factors which had significant univariate tests. The mean for the 4-6 hour group was significantly greater than the means for the 0-3 and 7-9 hour groups on the Social Isolation, Professional

Competence, and Duty vs Risk factors; it was significantly greater than the mean for the 7-9 hour group on the Hospital Policy factor. The mean of the 10 hour-and-over group was significantly greater than the mean for 0-3 hour group on the Controlling Risk factor.

Again, the biographical variables were examined for possible covariance. A multivariate analysis of variance and covariance was performed, with hours of AIDS education as the independent variable, cared and years as covariates, and the derived factor scores as dependent variables. Neither of the covariates were significant for the factors reflecting Social Isolation, Hospital Policy, Empathy, Perception of Self by Others, Patient Responsibility, or Relief of Suffering. On Duty vs Risk, both years and cared were significant, on Controlling Risk, years was significant, and on Professional Competency cared was a significant covariate. The statistical hypothesis that the adjusted population means are equal was not rejected for these three factors. This suggests that, if a nurse had actually cared for a patient with AIDS, she had a greater feeling of professional competence no matter what classes she had taken; and that the longer the nurse had been working, the more concerned she was about controlling risk factors. Both length of career and whether they had actually cared for an AIDS patient affected attitudes in the Duty vs Risk area. This may be related to nursing schools placing less emphasis on the ideal of duty in more recent years and that those respondents who have actually cared for an AIDS patient may see little reason for others to be allowed to refuse to provide care in this area.

CONCLUSIONS

On the basis of a non-standard survey tool administered to staff nurses, several inferences may be made. First, despite claims in the literature (Kelly, et al., 1988) that AIDS patients sometimes receive less nursing care than other patients, the nurses at this institution believe that a person with AIDS should receive the same level of medical care as other patients. Although they report that physicians considered persons with AIDS more responsible and deserving of illness, the results of the survey suggest that feelings may be more mixed in this sample,although further questioning of these nurses might show that their perceptions parallel those described by Katz, et al. (1988) that AIDS patients would still rate higher in terms of responsibility than patients with cancer, cardiac disease, or diabetes. However, even though these patients may be stigmatized by being perceived as responsible for their disease, the nurses deny that they are morally offended by them, do not suggest suicide as an acceptable solution for those suffering from AIDS, and they do not believe that those with AIDS should lose their jobs. Socially, most of the sample claim they would feel fairly comfortable being around someone that they knew had AIDS, with the most mixed feelings surrounding the issue of going to a party where a person with AIDS would be preparing the food. This expression of caution may be related to some uncertainty regarding the modes of transmission of the HIV organism--we know that it is transmitted by intimate relations, but can we be absolutely sure that it CANNOT be transmitted by food handling,

especially since it seems to have much in common with hepatitis, which is often transmitted by food handling? Food also has psychological comfort and safety connotations which may make it seem like a more symbolically vulnerable area.

Despite the American Medical Association's assertion that doctors may not refuse to care for HIV positive patients, these nurses had mixed feelings about whether health care workers should be allowed to refuse to treat HIV sero-positive patients. Such a refusal to treat breaks with the nursing tradition of duty to the sick; however, this idea of duty has been eroding with the increasing personal assertiveness of women in general, and nurses in particular, with their growing involvement in labor unions and demands for salaries and benefits comparable to those of their counterparts in more male-dominated professions. Regardless of their feelings of duty, they do feel professionally competent to care for these challenging patients when they must, and to give counselling regarding risk factors as necessary. However, some of them are less comfortable taking a sexual history on these patients--perhaps because in this instance they are asking for information instead of giving it and may see this as an invasion of privacy or an infringement on the patient's dignity, or perhaps because in many instances they may be asking about sexual practices they may not have personal experience with.

Confidentiality is another controversial issue. Most disagreed that health care workers should be screened for the AIDS antibody on a regular basis, perhaps because they feared losing their own jobs if they turned up positive, or perhaps they appreciate the possibility of a false positive test. Another factor influencing this decision is its cost-

effectiveness--is the amount of money spent on such mass screenings worth the finding of the few true positive cases? Professionally speaking, however, they feel they need to know ALL of their patient's diagnoses, so that they may offer psycho-social support in addition to their purely clinical duties to their patients. These nurses diverge from the example of the "space suit syndrome" described by Hartnett (1987), since very few of them would only care for an HIV infected patient while wearing full protective covering. Most of the nurses realize that the usual precautions used against the hepatitis are also effective against the HIV organism. More health care workers contract and actually die from hepatitis each year than get AIDS, but AIDS is more frightening because it is new, unknown, and, as far as we know, universally fatal. AIDS is also more frightening than hepatitis in view of the unconscious repression described by Stevens and Muskin (1987). Overall, however, they agree they are very unlikely to get AIDS, with the implication being that they won't get it on the job, since the survey did not address any personal high risk behavior on the nurse's part.

Most nurses agreed that patients with AIDS should be allowed to move around the hospital as freely as other patients (assuming that they would not be engaging in any high risk behavior when they were out of their rooms), suggesting that these nurses have a fairly enlightened view of civil liberty; however, surprisingly, a few nurses wanted the government to force persons with AIDS to wear identifying badges or armbands--how would this compare to when the Nazi's forced the Jews to wear identifying armbands? Generally, the nurses were not accepting of homosexuality as an acceptable

alternative lifestyle, but they would be willing to talk to the gay lover of a person with AIDS, thus demonstrating some tolerance of the gay way of life. They were more concerned that people would think they were homosexual than that they'd be considered an IV drug user if they contracted AIDS, again most likely relating to Stevens and Muskin's (1987) theories of repression with respect to homophobia.

Looking at how the differences in hours of education affected the nurses attitudes, as indicated on both the a priori scales and the derived factors, in most cases those who'd had 4-6 hours of AIDS education scored higher than those with 0-3 hours, 7-9 hours, or 10+ hours of training. This might be attributed to the fact that many of those in the 7-9 hour group only took the seven hour AIDS course as a requirement for state licensure, and had very little real interest in this area, while those who had 4-6 hours had most likely taken several shorter classes out of personal interest before the seven hour mandate took effect. The fact that the respondents were most conservative with regard to Duty vs. Risk and Personal Risk issues, as opposed to Societal Risk concerns, is a reflection of the difference in significance of situations that affect one directly and those at a greater social distance. The observation that the 0-3 hour group scored lowest on all the scales corresponds to the suggestion of the research literature that those with very little information about AIDS would be the most apprehensive and intolerant regarding persons with AIDS. However, as all nurses gain experience with these patients and get to know them as individual human beings, as opposed to simply "that gay person who brought it on himself", their levels of empathy would be expected

to increase; in this sample not many of the nurses had family or friends with AIDS, either, and as this changes their empathy may also increase.

It would be interesting to compare the results of a survey like this given to nurses in different parts of the United States, for instance San Francisco versus Salt Lake City.

RECOMMENDATIONS FOR FURTHER RESEARCH

As documented by the research literature (Flaskenrud, et al., 1989; Wertz, et al., 1988), it is important for health care workers to become knowledgeable about caring for persons with AIDS, especially as this contributes to improved attitudes, and therefore better patient care. However, whether a mandated number of hours of AIDS education is effective in this regard is questionable, since the results of this study would seem to indicate that those who took seven hours simply because it was required did not demonstrate more positive attitudes than those who had taken only 4-6 hours, although their scores were better than nurses who'd had only 0-3 hours.

At this point, since the mandate is fully in effect for Washington nurses now, those nurses coming from out-of-state who have not yet had many hours of AIDS education might be used in a pre-training/post-training situation to further examine the effect of this mandate.

The ultimate test of the effectiveness of AIDS education in improving health care workers' attitudes toward patient with AIDS would be an actual change in their approach to these patients - could this be measured by comparing patient satisfaction

ratings for groups of health care workers who had AIDS training and those who had not?

It would be useful to develop a standardized tool to measure health care workers' attitudes toward particularly patient groups (see Katz, et al., 1987), so that this type of study could more easily be replicated. It must also be noted that participants in this study did so on a voluntary basis, and that those nurses who chose not to participate may have different attitudes than the ones described in this study.

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APPENDIX A

MEMORANDUM FROM DEPARTMENT OF LICENSING

STATE OF WASHINGTON
DEPARTMENT OF LICENSING
Highways-Licenses Building • Olympia, Washington 98504 • (206) 753-6918
Mary Faulk, *Director*

PROFESSIONAL PROGRAMS MANAGEMENT DIVISION
NURSING SECTION

*** * * * M E M O R A N D U M * * * ***

ATE: October 31, 1988

O: Employers of Registered Nurses and Other Interested Parties

ROM: Washington State Board of Nursing

E: Mandatory AIDS Education

he Washington State Board of Nursing, at its meeting on October 3, 1988, adopted the rules implementing the mandatory AIDS raining and education passed by the 1988 legislature as The mnibus AIDS Bill (ESSB 6221).

ecause of continuing confusion about the requirement, the Board ishes to clarify the following points:

1. The requirement for AIDS education and training for enewal of licensure applies only to license renewal in 1989. he requirement for AIDS education and training for new pplicants and those reactivating an inactive, lapsed, suspended r revoked license will be on-going.

2. The requirement is for 7 contact hours of education and raining which must include the following AIDS topics: etiology nd epidemiology, testing and counseling, infection control uidelines, clinical manifestations and treatment, legal and thical issues to include confidentiality, and psychosocial ssues to include special population considerations. The equirement may be met in one program$ or a combination of rograms provided the content was received after January 1, 1987, hat the education encompassed at least 7 hours, and that all of he required topics were covered.

3. Neither the Board nor the Department of Licensing is pproving programs. Programs which meet the topic and contact our requirements will be acceptable. Innovative approaches to eeting the requirement, such as video or independent study,

4. Persons whose license renewal date is before March 31, 1989 may request an extension through April 15, 1989 by checking the appropriate box on the license renewal form. Requests for extensions should not be made separately from the materials provided with renewal materials.

5. The licensee will receive an affidavit with the notice of 1989 licensure renewal (mailed 60 days prior to expiration of the license) which the licensee is asked to sign verifying that he/she has completed the required AIDS education. No other materials or documentation should be submitted unless requested by the Board. Random audits will be conducted.

We are attempting to maintain an updated list of AIDS education courses as we are informed of course availability. A copy of the most recent update is enclosed. Licensees should contact the providers directly for further information.

Also enclosed is a draft copy of the Notice of AIDS Education Requirement to be enclosed with the renewal materials and the certification form which licensees will fill out.

The Board hopes that this information will help to clear up some of the questions regarding the requirement. For further information please call (206) 586-1923.

STATE OF WASHINGTON
DEPARTMENT OF LICENSING
Highways-Licenses Building • Olympia, Washington 98504 • (206) 753-6918
Mary Faulk, *Director*

AIDS EDUCATION AND TRAINING

NURSING COURSES -10/31/88

Date	Location	Sponsor	Contact
11/4/88	Bellevue	Bellevue Comm. Col.	641-2012
11/5/88	Vancouver	Clark College	699-0290
11/8/88	Seattle	Health Info Network	784-5655
11/8,15,22/88 evening series	Bellevue	Bellevue Comm. Col.	641-2012
11/12/88	Kennewick	Benton-Franklin Health Dist.	(509) 547-7704
11/22/88	Wenatchee	Chelan-Douglas Health Dist.	(509) 662-1511
11/28,29/88 evening series	Tacoma	Health Dept, LPNAWS Bates Training Ctr.	596-1865
11/29/88	Wenatchee	Chelan-Douglas Health Dist.	(509) 662-1511
11/29,12/6,13/88 evening series	Spokane	Intercollegiate Ctr for Nsg Educ.	(509) 326-7270
11/30,12/7/88	Vancouver	Clark College	699-0290
11/30,12/7,14/88 morning series	Spokane	Intercoll. Ctr for Nsg Educ.	(509) 326-7270
12/1,2,3/88	Seattle	University of WA	543-1047
12/1,10/88	Seattle	University of WA	543-1047
12/3/88	Bellingham	WSNA	622-3613
12/3/88	Richland	Benton-Franklin Health District	(509) 946-2600

NOTICE - AIDS EDUCATION REQUIREMENTS

The Department of Licensing has been charged with implementing the mandatory AIDS training and education as passed by the 1988 legislature, The Omnibus AIDS Bill (ESSB 6221). All health related professions under the disciplinary authority of the Uniform Disciplinary Act (RCW 18.130) are affected.

Beginning with licenses which expire on January 1, 1989 and through December 31, 1989, licensees in the professions listed in the tables below will certify at the time of renewal that they have met the required minimum contact hours and topics specified for each profession.

Those who renew between January 1, 1989 and March 31, 1989, may, in writing request an extension to April 15, 1989 in order to obtain the required education. The Certification of AIDS Education Requirement" form following the tables may be used for this purpose by checking the second statement.

The Department will accept courses taken since January 1, 1987 which fulfill the requirements of hours and topics listed for your profession.

TABLE 1 - Massage Practitioner

Professions which do not come in contact with body fluids known to transmit AIDS and are required to have a minimum of 4 contact hours of education in the following four topics: Etiology and Epidemiology of HIV; Transmission and Infection Control; Legal and Ethical Issues; Psychosocial Issues.

TABLE 2 -	Acupuncturist	Radiological Tech
	Dental Hygienist	Respiratory Care Practitioner
	Health Care Assistant	Physical Therapy
	Midwife	Psychology
	Nursing Assistant	Registered Nurse
	Licensed Practical Nurse	Nursing Home Administrator
	Osteopathic Phys/Surg	Funeral Director/Embalmer

Professions which come in contact with body fluids known to transmit AIDS and are required to have a minimum of 7 contact hours of education in the following six topics: Etiology and Epidemiology of HIV; Transmission and Infection Control; Testing and Counseling; Clinical Manifestations and Treatment; Legal and Ethical Issues; and Psychosocial Issues.

TABLE 3 - Counselor
Marriage and Family Counselor
Mental Health Counselor
Social Worker
Dietitian/Nutritionist
Hynotherapist

Professions which do not come in contact with body fluids known to transmit AIDS, but have diagnostic or treatment responsibilities and are assumed to be working directly with persons with AIDS. The requirement is for 4 contact hours of education in the following six topics: Etiology and Epidemiology of HIV; Transmission and Infection Control; Testing and Counseling; Clinical Manifestations and Treatment; Legal and Ethical Issues; and Psychosocial Issues.

Please read the "Certification of AIDS Education Requirement" carefully. Please PRINT or TYPE your full name, date of birth, profession in which you are licensed and your reference number (found above your name on your license). Check the appropriate box, sign, date and return with your renewal notice and fee.

PLEASE -- DO NOT SEND ANY DOCUMENTS REGARDING EDUCATION, E.G. CERTIFICATES. Those records must be maintained by you for at least 2 years and submitted only if requested to do so by the department.

DETACH CERTIFICATION FORM AND RETURN WITH YOUR RENEWAL CARD AND FEE

Certification of AIDS Education Requirement
(must be returned with renewal notice and fee)

NAME_____ Date of Birth ____/____/____

Licensed as_____ Reference Number _____

[] I certify I have completed the minimum of _____ hours of education in the prevention of AIDS and that the education was consistent with the course content (subjects) as required in the Table and/or Model pertinent to my profession, and that I completed the requirement after January 1, 1987. I understand I must maintain records documenting attendance, for 2 years and be prepared to submit those records to the Department of Licensing if requested.

[] My 1989 license expires on or before March 31, 1989 and I am requesting an extension to April 15, 1989 to meet the education in the prevention of AIDS requirements. I understand I must maintain records documenting attendance, for 2 years and be prepared to submit those records to the Department of Licensing if requested.

APPENDIX B

EXAMPLES OF AVAILABLE AIDS CLASSES

AIDS EDUCATION

DATE	SPONSOR	FEE	LOCATION	PHONE
Feb 25	U of W School of Medicine WSMA	MD $80 Others $55	Vancouver Red Lion Inn at Quay	(206)543-3910
Feb 25	WA Empl AIDS Prev WSMA/Group Health	$40	Seattle Group Health	(206)448-4326
March 1	Cedar Hills Hosp	$45	Portland	(503)297-2252
March 3	Profes-sional Update	$35	Vancouver Ferryman's Inn	(206)244-8125
March 8 & 15 (Two evening sessions)	Joint (1)	(2)	Foster Hall Clark College	Education 256-2190
March 6	Virginia Mason	$55	Seattle VMMC	(206)583-6464
March 8	St.John's Medical Center	*	Longview	636-4130
March 11	Joint (1)	(2)	Foster Hall Clark College Vancouver	Education 256-2190
March 18	Joint (1)	(2)	Foster Hall Clark College Vancouver	Education 256-2190
March 18	American Red Cross	*	Portland	(503)284-0011 Ext 179
March 22	Wa Empl AIDS Prev WSMA	$40	U of W Seattle	(206)448-4326

March*	WSNA	*	Vancouver	1-800-231-2482
April 1	Joint (1)	(2)	Mt. View High School	Education 256-2190
April 5	St.John's Medical Center	*	Longview	636-4130
April 8	U of W	$65	Seattle	(206)543-1047
April 11	American Red Cross	*	Portland	(503)284-0011 Ext 179
April 15	Joint (1)	(2)	Mt.View High School	Education 256-2190
April 18	American Red Cross	*	Portland	(503)284-0011 Ext 179
May 5 & 6 "Children and AIDS"	U of W School of Nursing	$65	Seattle	(206)543-1047
May 13	American Red Cross	*	Portland	(503)284-0011 Ext 179
May 13	Joint (1)	(2)	Foster Hall Clark College Vancouver	Education 256-2190
May 13	WSNA	*	Longview	1-800-231-2482
June 5	Virginia Mason	$55	VMMC Seattle	(206)583-6464
June 15	U of W	$65	Seattle	(206)543-1047

June 24	Joint (1)	(2)	Foster Hall Clark College Vancouver	Education 256-2190

(1) Joint Sponsorship: Clark College, Southwest Washington Hospitals, Southwest Washington Health District, Kaiser Permanente, Veterans' Administration

(2) Employees of Sponsoring Agencies: $20 Others: $30

Contact Board of Nursing 586-0452 or your professional board for state wide AIDS education programs

2/22/89

APPENDIX C

COVER LETTER AND SURVEY INSTRUMENT

Southwest Washington Hospitals

May 3, 1989

Dear Colleague,

As you know, late last year Washington State passed ESSB 6221, which requires seven hours of AIDS education for health care personnel for license renewal in 1989. To help evaluate the effectiveness of this mandate and the hospitals' programs offered to meet it, we are sending out the enclosed survey regarding nurses' attitudes toward AIDS to all SWH nursing staff. Please help with this study by answering the questions in a way that reflects your true feelings. **Your participation is vital to the validity of this study and will provide important feedback to those who originated the mandate.**

Please return your completed surveys in the interoffice envelope on your unit or to either Education offices (VMH or SJCH) before Friday, May 12. All responses are strictly confidential.

Thank you for your participation in this study.

Sincerely,

[redacted]

Dorothy J. Rowan, Education Department

[redacted]

Teresa Grove, Education Department

[redacted]

Verla Cowan, Infection Control

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SOUTHWEST WASHINGTON HOSPITALS AIDS OMNIBUS SURVEY

Please answer the following questions by indicating if you:
strongly agree **(SA)**, agree **(A)**, are undecided **(U)**, disagree **(D)**, or strongly disagree **(SD)**.

		SA	A	U	D	SD
1.	I feel I have sufficient knowledge to protect myself from getting AIDS.	___	___	___	___	___
2.	I feel professionally competent to care for a person with AIDS.	___	___	___	___	___
3.	A person with AIDS is responsible for his illness.	___	___	___	___	___
4.	I am very unlikely to get AIDS.	___	___	___	___	___
5.	A person with AIDS deserves sympathy & understanding.	___	___	___	___	___
6.	If I met a person with AIDS, I would be willing to strike up a conversation with him/her.	___	___	___	___	___
7.	All healthcare workers should be screened for the AIDS antibody on a regular basis.	___	___	___	___	___
8.	I would attend a party where I knew a person with AIDS would be present.	___	___	___	___	___
9.	All patients should be required to have the HIV antibody test on admission.	___	___	___	___	___
10.	A person with AIDS deserves what has happened to him.	___	___	___	___	___
11.	Homosexuals who contract AIDS deserve what they get.	___	___	___	___	___
12.	I would be willing to work in the same office as a person with AIDS.	___	___	___	___	___
13.	A person with AIDS has a lot of pain & suffering.	___	___	___	___	___
14.	A person with AIDS is dangerous to other people.	___	___	___	___	___
15.	Antibody test results should be available to all personnel involved in direct patient care.	___	___	___	___	___
16.	A person with AIDS deserves the best medical care possible.	___	___	___	___	___
17.	A person with AIDS should be quarantined so he does not expose others.	___	___	___	___	___
18.	I would attend a party where a person with AIDS was preparing the food.	___	___	___	___	___
19.	If I found out one of my friends had AIDS, I would be willing to continue the friendship.	___	___	___	___	___

	SA	A	U	D	SD
20. Healthcare workers should be allowed to refuse to treat HIV sero positive patients.	___	___	___	___	___
21. I would allow my children to visit a person with AIDS in his/her home.	___	___	___	___	___
22. A person with AIDS deserves to die.	___	___	___	___	___
23. I would feel comfortable interacting (talking) with the gay lover of a person with AIDS.	___	___	___	___	___
24. I feel comfortable taking a sexual history in my patient interview.	___	___	___	___	___
25. The world would be better off without those who have AIDS.	___	___	___	___	___
26. An IV drug user who contracts AIDS deserves what he got.	___	___	___	___	___
27. A nurse's duty requires her to care for infected patients despite personal risk.	___	___	___	___	___
28. Suicide might be the best solution for a person with AIDS.	___	___	___	___	___
29. Homosexuality should be considered an acceptable alternative lifestyle.	___	___	___	___	___
30. If I had a choice, I would avoid caring for persons with AIDS.	___	___	___	___	___
31. Compared to my colleagues, I am less comfortable in caring for homosexuals.	___	___	___	___	___
32. A person with AIDS deserves to lose his job.	___	___	___	___	___
33. Children with AIDS should be allowed to attend school.	___	___	___	___	___
34. I could give adequate counseling to homosexuals, bisexuals, IV drug users, and patients likely to get blood transfusions about AIDS.	___	___	___	___	___
35. I am morally offended by people with AIDS.	___	___	___	___	___
36. I think the average nurse is comfortable discussing sexual matters with homosexuals.	___	___	___	___	___
37. Patients with AIDS should be restricted to their rooms.	___	___	___	___	___
38. The usual precautions used against hepatitis are effective against the HIV organism.	___	___	___	___	___

	SA	A	U	D	SD
39. My caring for a person with AIDS would endanger my family's health.	___	___	___	___	___
40. I routinely use Body Substance Isolation (BSI) precautions.	___	___	___	___	___
41. If I got AIDS, people would think I am an IV drug user.	___	___	___	___	___
42. I remind other staff to use BSI precautions for all patients.	___	___	___	___	___
43. The government should force persons with AIDS to wear identifying badges or armbands.	___	___	___	___	___
44. I would be opposed to a person with AIDS living on the same street as me.	___	___	___	___	___
45. If I got AIDS, other people would think I am a homosexual.	___	___	___	___	___
46. I would only care for an HIV infected patient while wearing full protective covering: mask, goggles, cap, gown, shoe covers and gloves.	___	___	___	___	___

To help us analyze our data would you please provide the following demographic information:

A. Age _____

B. Years in nursing _____

C. Highest level of education:
___ high school
___ associate
___ bachelor's
___ masters
___ other

D. ___ Male ___ Female (please do not check both!)

E. ___ RN ___ LPN ___ Other _____

F. Approximately how many hours of AIDS education have you had in the last three years?

___ 7+ hours ___ 4-6 hours ___ 1-3 hours ___ 0 hours

G. I have cared for a person with AIDS. ___ yes ___ no

H. Someone close to me (friend, family) has AIDS or is HIV positive.

___ yes ___ no

APPENDIX D

FOLLOW-UP LETTER

Southwest Washington Hospitals

May 17, 1989

Dear Colleague,

Two weeks ago, you received a questionnaire regarding nurses' attitudes toward AIDS as part of an effort to gauge the effectiveness of Washington State's mandated AIDS education. If you have already completed and returned this survey, I would like to express my gratitude and commend your professionalism in this area. If you have not yet taken advantage of this opportunity to express your feelings on this controversial subject, **please respond no later than Wednesday, May 24, 1989.** A meaningful interpretation of the data requires a large return rate, so each individual survey returned is important to our results. All responses are strictly confidential.

If you have not yet received a copy of this survey, you may obtain one from the Education office by calling 256-2190.

Surveys may be returned in the inter-office mail envelopes located on your nursing unit or directly to VMH or SJCH Education offices. Again, **thank you** for your participation in this study!

Sincerely,

[redacted]

Dorothy Rowan, Director, Education Department

[redacted]

Teresa Grove, Nursing Education Coordinator

[redacted]

Verla Cowan, Infection Control Coordinator